1280 Route 46 West, Suite 9, Parsippany NJ, 07054

Melanie Bachman
Executive Director
CT Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modification Application
86 Boardman Rd, New Milford CT

Latitude: N41.5994
Longitude: W73.4374

Dear Ms. Bachman:

Sprint currently maintains 3 existing panel antennas and 3 remote radio units at the 150' centerline level of the existing Monopine tower. Sprint proposes to add 3 panel antennas and 6 remote radio unit at 150' centerline on the tower. Sprint further proposes to add 1 hybrid cable and 30 Antenna to RRH jumper cables. Sprint is performing a new high-performance upgrade for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

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Please accept this letter as notification to the Council, pursuant to R.C.S.A. Section 16-50j-73, for construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter is being sent to Mayor Pete Bass of the Town of New Milford as well as Kathy Castagnetta, Town Planner for the Town of New Milford and Quarry Stone & Gravel, LLC, owner of the property.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in Sprint's operations at the site. Also included is documentation of the structural sufficiency of the tower with proposed modifications to accommodate the revised antenna configuration as well as the original approval for the site as well as the latest CSC decision, tax sheet and tax map.\

Existing Facility

CSC Summary Statement – CT33XC605 – 86 Boardman Rd, New Milford CT 06088

The Boardman Bridge facility is located at 86 Boardman Rd, New Milford CT and is owned by Quarry Stone & Gravel, LLC, the Site coordinates are: N41.5994, W73.4374.

The existing facility consists of a 153' Monopine Tower. Sprint currently operates wireless communications equipment on a platform on a concrete slab at the facility and has 3 antennas and 3 RRU's mounted on at a centerline of 150' feet.

Statutory Considerations

The planned modifications to the facility fall within the activities explicitly provided for in R.C.S.A. 16-50j-72(b)(2)

1. The height of the overall structure will be unaffected.

2. The proposed changes will not require an extension of the property boundaries.

3. The proposed additions will not increase the noise level at the existing facility by

six decibels or more, or to levels that exceed state and/or local criteria

4. The changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, Sprint respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A Section §16-50j-72(b)(2).

Respectfully submitted,

Ryan G Bailey
Charles Cherundolo Consulting
856-625-1596
ryan@mackenzierealtyconsulting.com

Additional Recipients:
Mayor Pete Bass for the Town of New Milford– Via FedEx
Kathy Castagnetta, Town Planner for the Town of New Milford - Via FedEx
Quarry Stone & Gravel, owner of the property – Via FedEx

Connecticut Siting Council
Decisions

DOCKET NO. 285 - Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at 33 Boardman Road, New Milford, Connecticut.	}	Connecticut Siting Council July 13, 2004

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes **§** 16-50k, be issued to Sprint Spectrum, L.P. for the construction, maintenance and operation of a wireless telecommunications facility at 33 Boardman Road, New Milford, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint Spectrum L.P., Nextel Communications, Inc., and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level. The height at the top of the antennas shall not exceed a height of 153 feet above ground level.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of New Milford, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction. The D&M shall include:

   a. a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping; and

   b. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. Prior to submission of the D&M plan to the Council, the Certificate Holder shall discuss the appropriateness and feasibility of stealth tower designs for this site with the Town. The Town and Certificate Holder shall agree upon the final tower design.

4. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case

modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

5. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

6. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

7. The Certificate Holder shall provide reasonable space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.

8. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

9. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.

10. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved. Any request for extension of this period shall be filed with the Council no later than sixty days prior to expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list. Any proposed modifications to this Decision and Order shall likewise be so served.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Hartford Courant, the New Milford Spectrum, and the New Milford Times.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
Sprint Spectrum, L.P. -	Thomas J. Regan, Esquire Brown Rudnick Berlack Isreals LLP CityPlace I, 38th Floor

	185 Asylum Street Hartford, CT 06103-3402
Intervenor Nextel Communications, Inc.	**Its Representative** Julie Donaldson Kohler Hurwitz & Sagarin P.O. Box 112 Milford, CT 06460

Content Last Modified on 7/15/2004 12:58:33 PM

Sprint

PROJECT:	DO MACRO UPGRADE
SITE NAME:	BOARDMAN BRIDGE - ASI
SITE CASCADE:	CT33XC605
SITE ADDRESS:	86 BOARDMAN ROAD NEW MILFORD, CT 06776
SITE TYPE:	MONOPINE TOWER
MARKET:	SOUTHERN CONNECTICUT

SITE INFORMATION

PROPERTY OWNER:
QUARRY STONE & GRAVEL, LLC
86 BOARDMAN ROAD
NEW MILFORD, CT 06776

LATITUDE (NAD83):
41° 35' 57.881" N
41.59941138°

LONGITUDE (NAD83):
73° 26' 14.931" W
-73.43748083°

COUNTY:
FAIRFIELD

ZONING JURISDICTION:
CONNECTICUT SITING COUNCIL

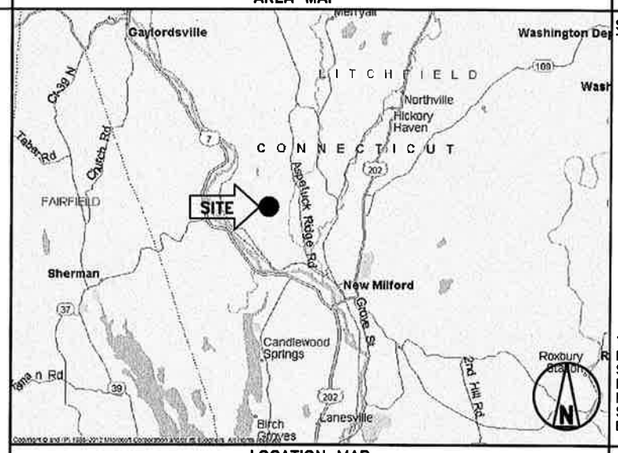
ZONING DISTRICT:
I

POWER COMPANY:
CL&P
(800) 286-2000

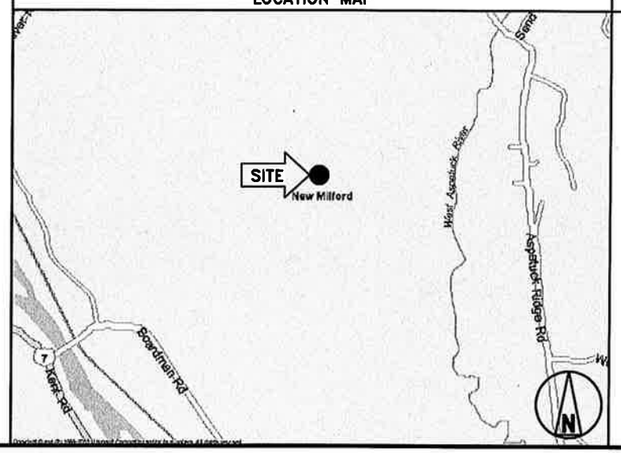
AAV PROVIDER:
AT&T
(800) 246-2020

SPRINT CM:
JESSE ROSENTHAL
(862) 226-9768

AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.

- INSTALL (1) 9927 EQUIPMENT CABINET IN EXISTING LEASE SPACE
- INSTALL (3) PANEL ANTENNAS
- INSTALL (6) RRU'S TO TOWER
- INSTALL (30) JUMPER CABLES
- INSTALL (1) HYBRID CABLE
- INSTALL (4) BATTERIES IN EXISTING BATTERY CABINET

THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.

APPLICABLE CODES

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALL IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (2012 IBC)
2. TIA-EIA-222-G OR LATEST EDITION
3. NFPA 780 – LIGHTNING PROTECTION CODE
4. 2011 NATIONAL ELECTRIC CODE OR LATEST EDITION
5. ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS
6. CT BUILDING CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

811 Know what's **below.** **Call** before you dig. www.call811.com

DRAWING INDEX

SHEET NO.	SHEET TITLE	REV.
T-1	TITLE SHEET & PROJECT DATA	0
SP-1	SPRINT SPECIFICATIONS	0
SP-2	SPRINT SPECIFICATIONS	0
SP-3	SPRINT SPECIFICATIONS	0
A-1	SITE PLAN	0
A-1A	EXISTING EQUIPMENT DETAILS	0
A-2	BUILDING ELEVATION & CABLE PLAN	0
A-3	ANTENNA LAYOUT & MOUNTING DETAILS	0
A-4	COLOR CODING & NOTES	0
A-5	EQUIPMENT & MOUNTING DETAILS	0
A-6	CIVIL DETAILS	0
A-7	PLUMBING DIAGRAM	0
E-1	ELECTRICAL & GROUNDING PLAN	0
E-2	ELECTRICAL & GROUNDING DETAILS	0

PLANS PREPARED FOR:
Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:
INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
JOB NUMBER 526-102

Cherundolo Consulting

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24709
LICENSED PROFESSIONAL ENGINEER
NOV 29 2017

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR PERMIT	11/28/17	MPS	0
REVISED PER RFDS	09/29/17	MPS	B
ISSUED FOR REVIEW	07/26/17	JDL	A

SITE NAME:
BOARDMAN BRIDGE - ASI

SITE CASCADE:
CT33XC605

SITE ADDRESS:
86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:
TITLE SHEET & PROJECT DATA

SHEET NUMBER:
T-1

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 – SCOPE OF WORK

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 PRECEDENCE: SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.

1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:

A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:

1. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
5. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
3. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY –GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
4. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC") AND NFPA 101 (LIFE SAFETY CODE).
5. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
6. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
7. AMERICAN CONCRETE INSTITUTE (ACI)
8. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
9. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
10. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
11. PORTLAND CEMENT ASSOCIATION (PCA)
12. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
13. BRICK INDUSTRY ASSOCIATION (BIA)
14. AMERICAN WELDING SOCIETY (AWS)
15. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
16. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
17. DOOR AND HARDWARE INSTITUTE (DHI)
18. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
19. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

1.5 DEFINITIONS:

A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.

B. COMPANY: SPRINT CORPORATION

C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E", THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.

D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.

E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.

G. CONSTRUCTION MANAGER – ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

1.6 SITE FAMILIARITY: CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

1.7 POINT OF CONTACT: COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.

1.8 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.9 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

B. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.

C. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

1.10 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.11 UTILITIES SERVICES: WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED:

1.12 PERMITS / FEES: WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.

1.14 METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION: CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.

NOTE: IN SHORT-FORM SPECIFICATIONS ON THE DRAWINGS, A/E TO INSERT LIST OF APPLICABLE MOPS INCLUDING EN-2012-001, EN-2013-002, EL-0568, AND TS-0193

1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

3.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

3.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

3.4 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

3.5 EXISTING CONDITIONS: NOTIFY THE SPRINT CONSTRUCTION MANAGER OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 RECEIPT OF MATERIAL AND EQUIPMENT:

A. A COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.

B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

1 ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.

2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.

3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.

4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.

5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.

6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

3.2 DELIVERABLES:

A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.

B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.

C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 – CELL SITE CONSTRUCTION CO.

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 NOTICE TO PROCEED

A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.

B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 FUNCTIONAL REQUIREMENTS:

A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.

B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.

C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES

D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

PLANS PREPARED FOR:
Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:
INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
JOB NUMBER 526-102

Cherundolo Consulting

ENGINEERING LICENSE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR PERMIT	11/28/17	MPS	0
REVISED PER RFDS	09/29/17	MPS	B
ISSUED FOR REVIEW	07/26/17	JDL	A

SITE NAME:
BOARDMAN BRIDGE - ASI

SITE CASCADE:
CT33XC605

SITE ADDRESS:
86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:
SPRINT SPECIFICATIONS

SHEET NUMBER:
SP-1

CONTINUE FROM SP-1

1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER
15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
19. PERFORM ANTENNAL AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."

3.2 GENERAL REQUIREMENTS FOR CIVIL CONSTRUCTION:

A. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.

1. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
2. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

D. CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION

E. CONDUCT TESTING AS REQUIRED HEREIN.

3.3 DELIVERABLES:

A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER

B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.

1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
2. PROJECT PROGRESS REPORTS.
3. CIVIL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
13. CIVIL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

SECTION 01 400 - SUBMITTALS & TESTS

PART 1 - GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 SUBMITTALS:

A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.

B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL.

1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
5. CHEMICAL GROUNDING DESIGN

D. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

1.4 TESTS AND INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.

B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 4 ANTENNA LINE ACCEPTANCE STANDARDS.
2. AGL, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING;

1. AZIMUTH, DOWNTILT, AGL - UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AGL MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
3. ALL AVAILABLE JURISDICTIONAL INFORMATION
4. PDF SCAN OF REDLINES PRODUCED IN FIELD
5. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS-BUILT" CONDITION.
6. LIEN WAIVERS
7. FINAL PAYMENT APPLICATION
8. REQUIRED FINAL CONSTRUCTION PHOTOS
9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPs

1.6 INTEGRATION: PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPs

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY:

1. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
2. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.
4. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.

3.2 REQUIRED TESTS:

A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS
5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.
6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 REQUIRED INSPECTIONS

A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.

B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
4. PRE- AND POST-CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
6. ANTENNA AZIMUTH , DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS - ANTENNALIGN ALIGNMENT TOOL (AAT)

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PLANS PREPARED BY:

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Cherundolo Consulting

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
NO. 24705
LICENSED PROFESSIONAL ENGINEER
11/28/17

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR PERMIT	11/28/17	MPS	0
REVISED PER RFDS	09/29/17	MPS	B
ISSUED FOR REVIEW	07/26/17	JDL	A

SITE NAME:

BOARDMAN BRIDGE - ASI

SITE CASCADE:

CT33XC605

SITE ADDRESS:

86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-2

CONTINUE FROM SP-2

7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.

8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC.). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.

9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.

10. SCAN-ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT

11. ALL AVAILABLE JURISDICTIONAL INFORMATION

12. PDF SCAN OF REDLINES PRODUCED IN FIELD

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

D. CONSTRUCTION INSPECTIONS AND CORRECTIVE MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR WITH WRITTEN REPORTS AND PHOTOGRAPHS. PHOTOGRAPHS MUST BE DIGITAL AND OF SUFFICIENT QUALITY TO CLEARLY SHOW THE SITE CONSTRUCTION. PHOTOGRAPHS MUST CLEARLY IDENTIFY THE PHOTOGRAPHED ITEM AND BE LABELED WITH THE SITE CASCADE NUMBER, SITE NAME, DESCRIPTION, AND DATE.

3.4 DELIVERABLES: TEST AND INSPECTION REPORTS AND CLOSEOUT DOCUMENTATION SHALL BE UPLOADED TO THE SMS AND/OR FORWARDED TO SPRINT FOR INCLUSION INTO THE PERMANENT SITE FILES.

A. THE FOLLOWING TEST AND INSPECTION REPORTS SHALL BE PROVIDED AS APPLICABLE.

1. CONCRETE MIX AND CYLINDER BREAK REPORTS.

2. STRUCTURAL BACKFILL COMPACTION REPORTS.

3. SITE RESISTANCE TO EARTH TEST.

4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION

5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.

6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".

B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING;

1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.

2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;

3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS – PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.

4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING – TOP AND BOTTOM; PHOTOS OF COAX GROUNDING--TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.

5. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;

6. SITE LAYOUT – PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.

7. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.

8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.

9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 400 – SUBMITTALS & TESTS

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 WEEKLY REPORTS:

A. CONTRACTOR SHALL PROVIDE SPRINT WITH WEEKLY REPORTS SHOWING PROJECT STATUS. THIS STATUS REPORT FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY SPRINT. THE REPORT WILL CONTAIN SITE ID NUMBER, THE MILESTONES FOR EACH SITE, INCLUDING THE BASELINE DATE, ESTIMATED COMPLETION DATE AND ACTUAL COMPLETION DATE.

B. REPORT INFORMATION WILL BE TRANSMITTED TO SPRINT VIA ELECTRONIC MEANS AS REQUIRED. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.

3.2 PROJECT CONFERENCE CALLS:

A. SPRINT MAY HOLD WEEKLY PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.

3.3 PROJECT TRACKING IN SMS:

A. CONTRACTOR SHALL PROVIDE SCHEDULE UPDATES AND PROJECTIONS IN THE SMS SYSTEM ON A WEEKLY BASIS.

3.4 ADDITIONAL REPORTING:

A. ADDITIONAL OR ALTERNATE REPORTING REQUIREMENTS MAY BE ADDED TO THE REPORT AS DETERMINED TO BE REASONABLY NECESSARY BY COMPANY.

3.5 PROJECT PHOTOGRAPHS:

A. FILE DIGITAL PHOTOGRAPHS OF COMPLETED SITE IN JPEG FORMAT IN THE SMS PHOTO LIBRARY FOR THE RESPECTIVE SITE. PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH SITE NUMBER, NAME AND DESCRIPTION, AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING AS APPLICABLE:

1. 1SHELTER AND TOWER OVERVIEW.
2. TOWER FOUNDATION(S) – FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).
3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).
4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).
5. PHOTOS OF TOWER SECTION STACKING.
6. CONCRETE TESTING / SAMPLES.
7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.
8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.
9. SHELTER FOUNDATION--FORMS AND STEEL BEFORE POURING.
10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.
11. COAX CABLE ENTRY INTO SHELTER.
12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.
14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.
15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.
16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.
17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.
18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.
19. ELECTRICAL TRENCH(S) WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.
21. TELCO TRENCH WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
22. SHELTER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
23. TOWER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
24. FENCE GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
25. ALL BTS GROUND CONNECTIONS.
26. ALL GROUND TEST WELLS.
27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.
28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.
29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.
30. GPS ANTENNAS.
31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.
32. DOGHOUSE/CABLE EXIT FROM ROOF.
33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.
34. MASTER BUS BAR.
35. TELCO BOARD AND NIU.
36. ELECTRICAL DISTRIBUTION WALL.
37. CABLE ENTRY WITH SURGE SUPPRESSION.
38. ENTRANCE TO EQUIPMENT ROOM.
39. COAX WEATHERPROOFING--TOP AND BOTTOM OF TOWER.
40. COAX GROUNDING –TOP AND BOTTOM OF TOWER.
41. ANTENNA AND MAST GROUNDING.
42. LANDSCAPING – WHERE APPLICABLE.

3.6 FINAL PROJECT ACCEPTANCE: COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

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Cherundolo Consulting

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
NO. 24705
LICENSED PROFESSIONAL ENGINEER
NOV 28 2017

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR PERMIT	11/28/17	MPS	0
REVISED PER RFDS	09/29/17	MPS	B
ISSUED FOR REVIEW	07/26/17	JDL	A

SITE NAME:

BOARDMAN BRIDGE - ASI

SITE CASCADE:

CT33XC605

SITE ADDRESS:

86 BOARDMAN ROAD
NEW MILFORD, CT 06776

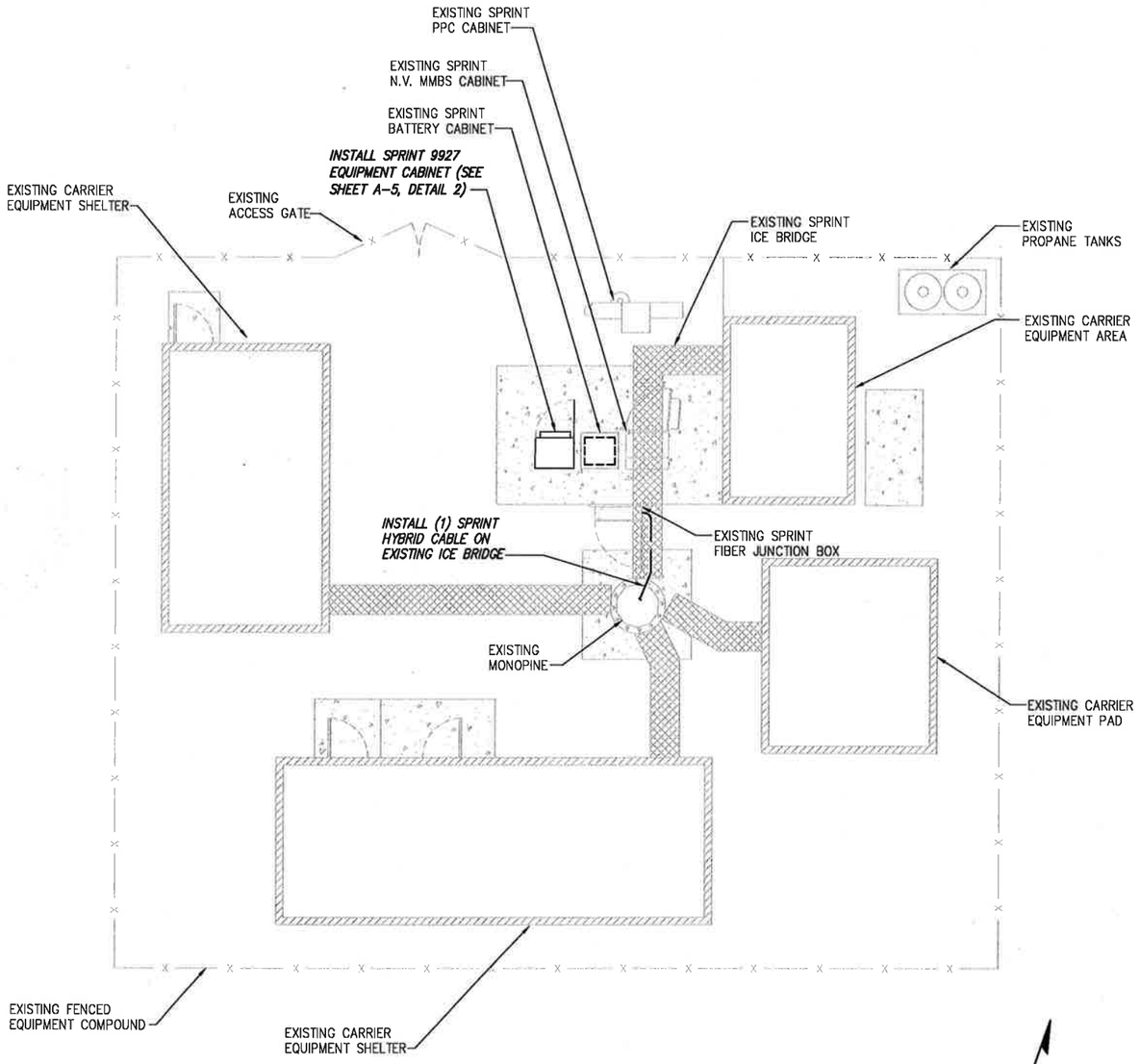
SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

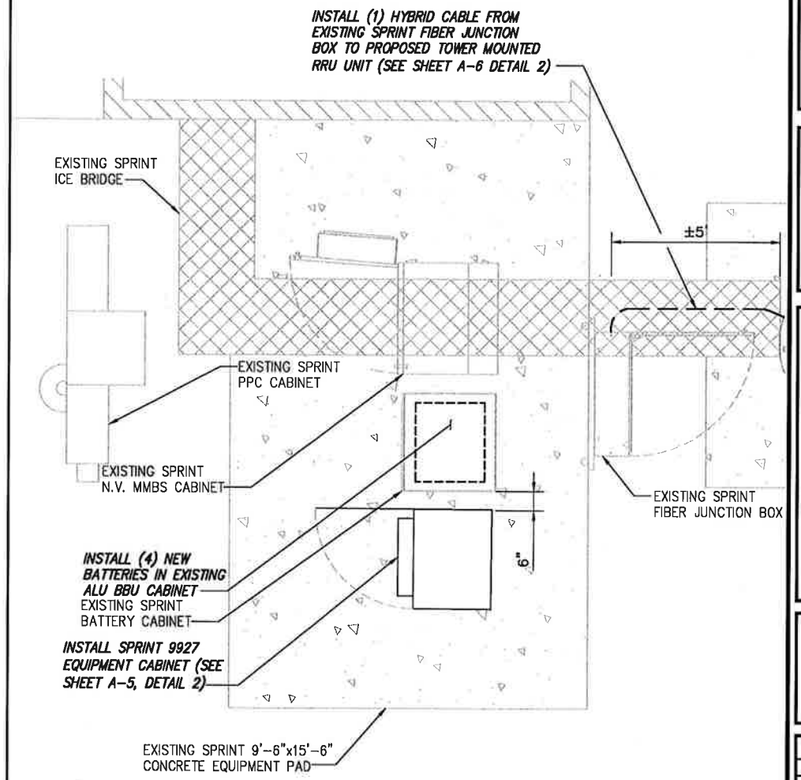
SP-3

INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION AND ARE NOT THE RESULT OF A FIELD SURVEY.



OVERALL SITE PLAN

SCALE: AS NOTED | 1



NOTE:
FOR RISER CABLE LENGTH ESTIMATE, SEE SHEET A-6A, DETAILS 2-4

SPRINT EQUIPMENT PLAN

SCALE: AS NOTED | 2

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PLANS PREPARED BY:

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JOB NUMBER 528-102

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NOV 27 2017

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR PERMIT	11/28/17	MPS	0
REVISED PER RFDS	09/29/17	MPS	B
ISSUED FOR REVIEW	07/26/17	JDL	A

SITE NAME:

BOARDMAN BRIDGE - ASI

SITE CASCADE:

CT33XC605

SITE ADDRESS:

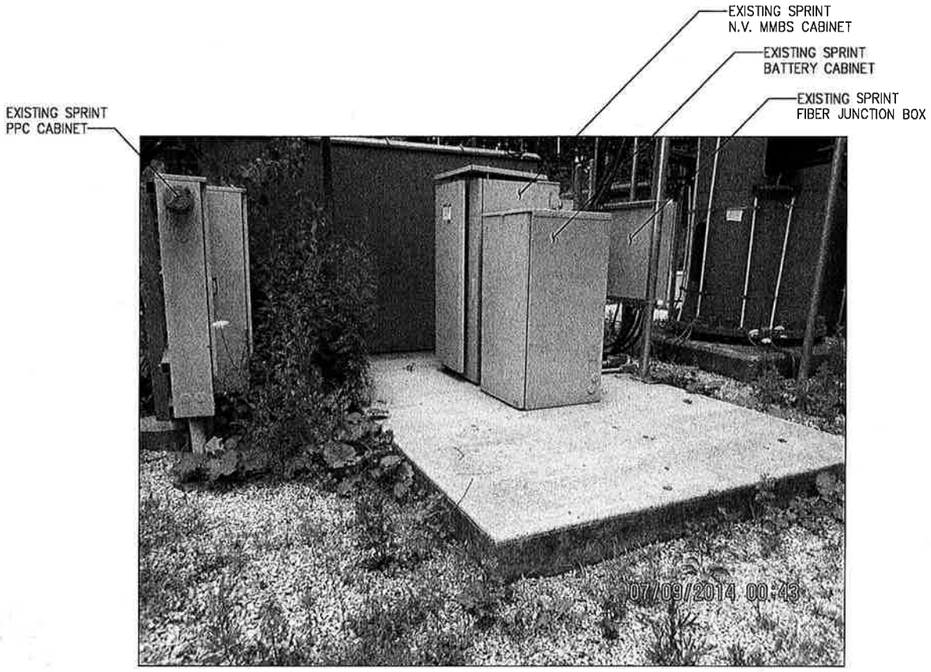
86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:

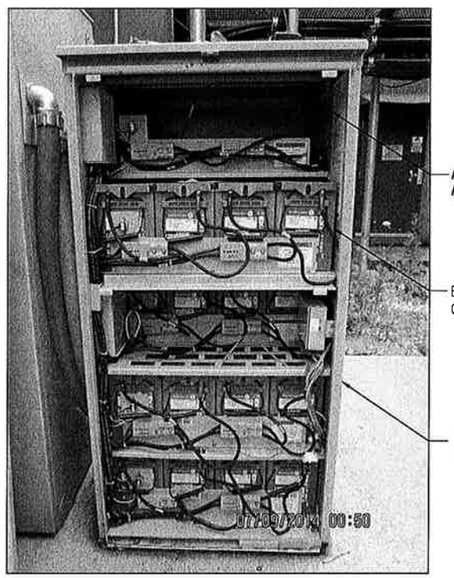
SITE PLAN

SHEET NUMBER:

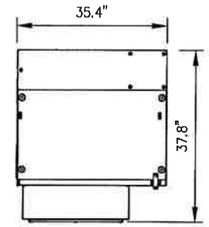
A-1



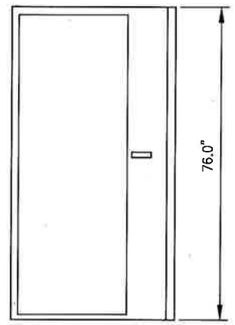
CABINET LINEUP PHOTO | SCALE: AS NOTED | 1



EXISTING BATTERY CABINET PHOTO | SCALE: AS NOTED | 2



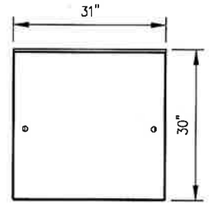
TOP VIEW



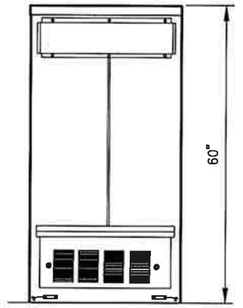
FRONT VIEW

MANUFACTURER: ALU
MODEL: 9928

N.V. MMBS CABINET



TOP VIEW



REAR VIEW

MANUFACTURER: ALU
MODEL: PBP3D30CAA

BATTERY CABINET

EXISTING EQUIPMENT DETAIL | SCALE: AS NOTED | 3

PLANS PREPARED FOR:

Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
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Office # (518) 690-0790
JOB NUMBER 526-102

Cherundolo Consulting

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
NOV 21705
LICENSED PROFESSIONAL ENGINEER
NOV 28 2017

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BOARDMAN BRIDGE - ASI

SITE CASCADE:

CT33XC605

SITE ADDRESS:

86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:

EXISTING EQUIPMENT DETAILS

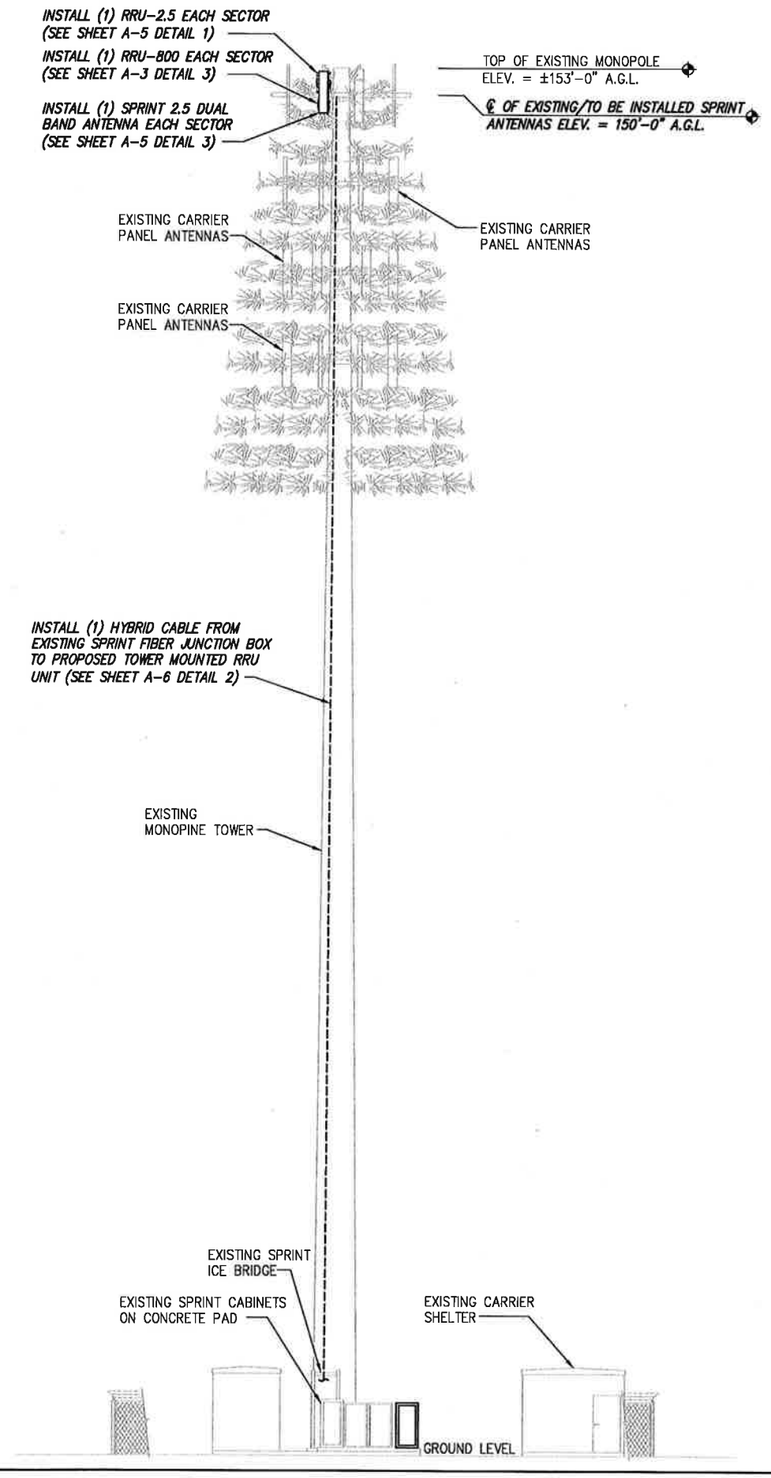
SHEET NUMBER:

A-1A

NOTE:
INFINIGY ENGINEERING HAS NOT EVALUATED THE MOUNT LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF PASSING MOUNT ANALYSIS.

FOR ADDITIONAL INFORMATION, SEE STRUCTURAL ANALYSIS COMPLETED BY INFINIGY TITLED: "STRUCTURAL ANALYSIS REPORT," DATED: "NOVEMBER 27, 2017," SITE NAME: "BOARDMAN BRIDGE-ASI," CELL SITE ID: "CT33XC605." IN ACCORDANCE WITH THE STRUCTURAL ANALYSIS, THE EXISTING TOWER CAN SUPPORT THE PROPOSED LOADING.

NOTE:
SEE DETAIL 2 ON A-3 FOR ANTENNA LAYOUT



BUILDING ELEVATION | NO SCALE | 1

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LICENSED PROFESSIONAL ENGINEER
NOV 28 2017

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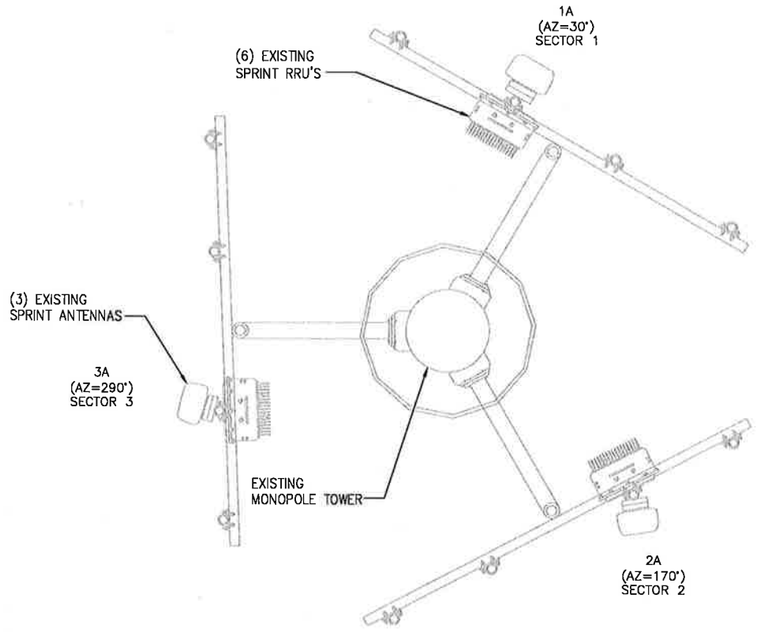
SITE CASCADE:
CT33XC605

SITE ADDRESS:
86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:
BUILDING ELEVATION & CABLE PLAN

SHEET NUMBER:
A-2



NOTE:
BRANCHES NOT SHOWN FOR CLARITY

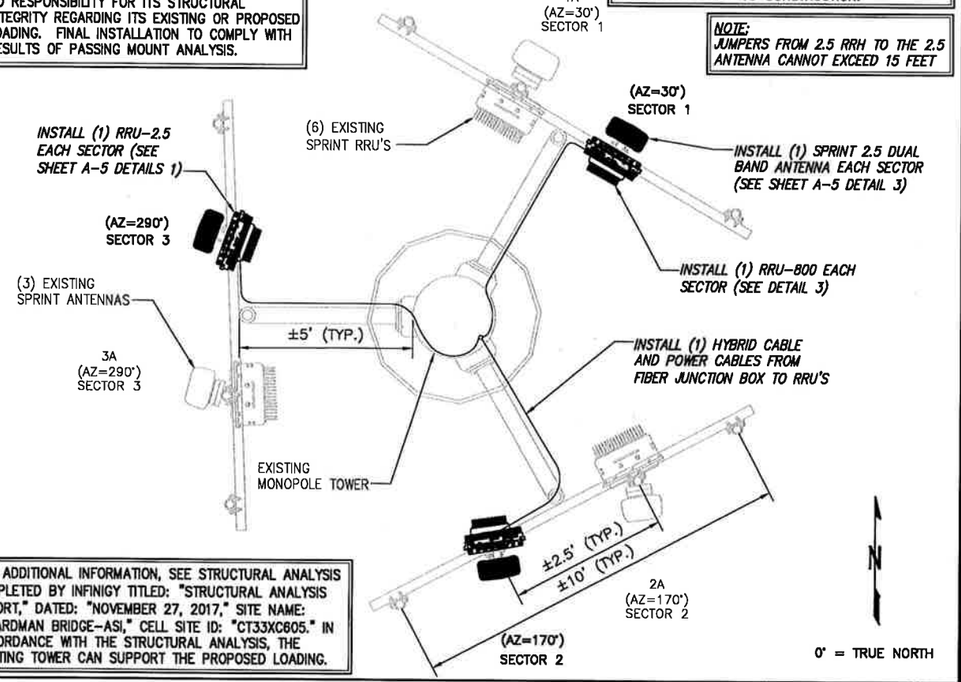
0° = TRUE NORTH

EXISTING ANTENNA & RRU LAYOUT | NO SCALE | 1

NOTE:
INFINIGY ENGINEERING HAS NOT EVALUATED THE MOUNT LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF PASSING MOUNT ANALYSIS.

THE CONFIGURATION PLANS ARE BASED ON PROVIDED INFORMATION AND ARE FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION.

NOTE:
JUMPERS FROM 2.5 RRH TO THE 2.5 ANTENNA CANNOT EXCEED 15 FEET

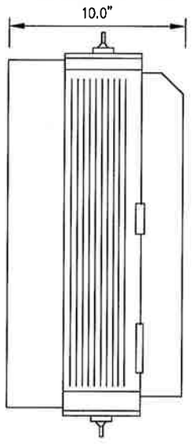


FOR ADDITIONAL INFORMATION, SEE STRUCTURAL ANALYSIS COMPLETED BY INFINIGY TITLED: "STRUCTURAL ANALYSIS REPORT," DATED: "NOVEMBER 27, 2017," SITE NAME: "BOARDMAN BRIDGE-ASI," CELL SITE ID: "CT33XC605." IN ACCORDANCE WITH THE STRUCTURAL ANALYSIS, THE EXISTING TOWER CAN SUPPORT THE PROPOSED LOADING.

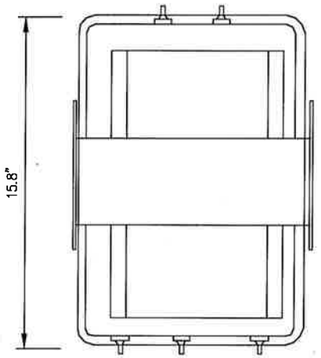
0° = TRUE NORTH

FINAL ANTENNA LAYOUT | NO SCALE | 2

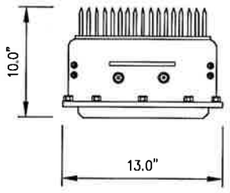
RRU: ALCATEL LUCENT RRH 800 MHz 2x50W
COLOR: LIGHT GREY
WEIGHT: 53 LBS.



SIDE VIEW



FRONT VIEW

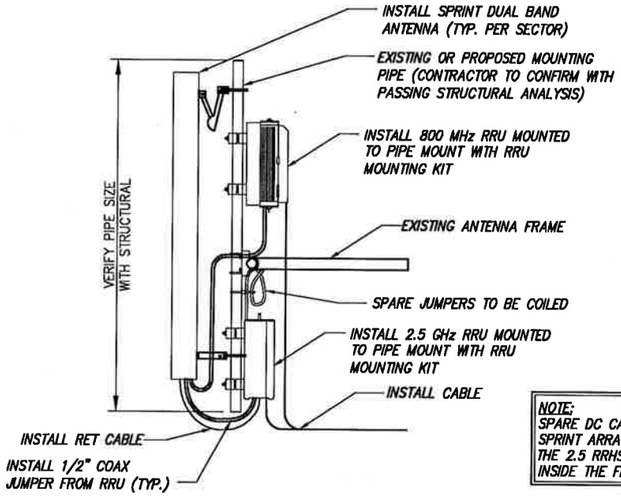


PLAN VIEW

NOTES

COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRU PACKAGES IN THE RAIN.

800 RRU DETAIL | NO SCALE | 3



NOTE:
CONTRACTOR TO POSITION RRU ON MOUNT BEHIND ANTENNA SUCH THAT THE RRU DOES NOT INTERFERE WITH THE EXISTING MOUNTING HARDWARE.

NOTE:
SPARE DC CABLES ARE COILED UP ON NV RRHS AT SPRINT ARRAY. THESE ARE TO BE USED TO POWER UP THE 2.5 RRHS AND TIED INTO EXISTING DC BREAKERS INSIDE THE FIBER JUNCTION BOX LOCATED AT EQUIPMENT.

NOTE:
THE DIAGRAM IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO REFER TO PASSING STRUCTURAL ANALYSIS FOR ANTENNA AND RRU MOUNTING DETAILS

TYPICAL ANTENNA & RRU MOUNTING DETAILS | NO SCALE | 4

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JOB NUMBER 526-102

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JOHN S. STEVENS
NO. 27076
LICENSED PROFESSIONAL ENGINEER
NOV 27 2017

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BOARDMAN BRIDGE - ASI

SITE CASCADE:
CT33XC605

SITE ADDRESS:
86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:
ANTENNA LAYOUT & MOUNTING DETAILS

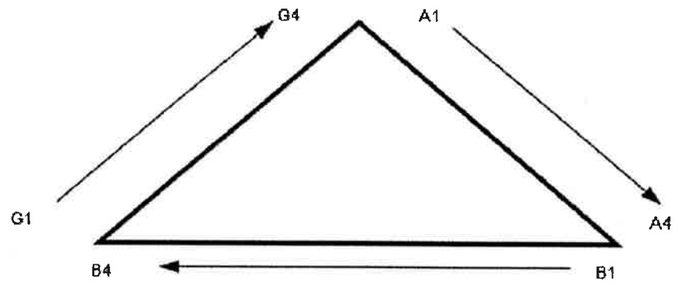
SHEET NUMBER:
A-3

NV CABLES			
BAND	INDICATOR	PORT	COLOR
800-1	YEL GRN	NV-1	GRN
1900-1	YEL RED	NV-2	BLU
1900-2	YEL BRN	NV-3	BRN
1900-3	YEL BLU	NV-4	WHT
1900-4	YEL SLT	NV-5	RED
800-2	YEL ORG	NV-6	SLT
SPARE	YEL WHT	NV-7	PPL
2500	YEL PPL	NV-8	ORG

HYBRID	
HYBRID	COLOR
1	GRN
2	BLU
3	BRN
4	WHT
5	RED
6	SLT
7	PPL
8	ORG

2.5 Band		
2500 Radio 1		COLOR
YEL	WHT	GRN
YEL	WHT	BLU
YEL	WHT	BRN
YEL	WHT	WHT
YEL	WHT	RED
YEL	WHT	SLT
YEL	WHT	PPL
YEL	WHT	ORG

Figure 1: Antenna Orientation



NOTES:

1. ALL CABLES SHALL BE MARKED WITH 2" WIDE, UV STABILIZED, UL APPROVED TAPE.

2. THE FIRST RING SHALL BE CLOSEST TO THE END OF THE CABLE AND SPACED APPROXIMATELY 2" FROM THE END CONNECTOR, WEATHERPROOFING, OR BREAK-OUT CYLINDER. THERE SHALL BE A 1" SPACE BETWEEN EACH RING FOR THE CABLE IDENTIFIER, AND NO SPACES BETWEEN THE FREQUENCY BANDS.

3. A 2" GAP SHALL SEPARATE THE CABLE COLOR CODE FROM THE FREQUENCY COLOR CODE. THE 2" COLOR RINGS FOR THE FREQUENCY CODE SHALL BE PLACED NEXT TO EACH OTHER WITH NO SPACES.

4. THE 2" COLORED TAPE(S) SHALL EACH BE WRAPPED A MINIMUM OF 3 TIMES AROUND THE INDIVIDUAL CABLES, AND THE TAPE SHALL BE KEPT IN THE SAME LOCATION AS MUCH AS POSSIBLE.

5. SITES WITH MORE THAN FOUR (4) SECTORS WILL REQUIRE ADDITIONAL RINGS FOR EACH SECTOR, FOLLOWING THE PATTERN. HIGH CAPACITY SITES WILL USE THE NEXT COLOR IN THE SEQUENCE FOR ADDITIONAL CABLES IN EACH SECTOR.

6. HYBRID FIBER CABLE SHALL BE SECTOR IDENTIFIED INSIDE THE CABINET ON FREQUENCY BUNDLES, ON THE SEALTITE, ON THE MAIN LINE UPON EXIT OF SEALTITE, AND BEFORE AND AFTER THE BREAKOUT UNIT (MEDUSA), AS WELL AS BEFORE AND AFTER ANY ENTRANCE OR EXIT.

7. HFC "MAIN TRUNK" WILL NOT BE MARKED WITH THE FREQUENCY CODES, AS IT CONTAINS ALL FREQUENCIES.

8. INDIVIDUAL POWER PAIRS AND FIBER BUNDLES SHALL BE LABELED WITH BOTH THE CABLE AND FREQUENCY.

Sector	Cable	First Ring	Second Ring	Third Ring
1 Alpha	1	Green	No Tape	No Tape
1	2		No Tape	No Tape
1	3	Brown	No Tape	No Tape
1	4	White	No Tape	No Tape
1	5	Red	No Tape	No Tape
1	6	Grey	No Tape	No Tape
1	7	Purple	No Tape	No Tape
1	8	Orange	No Tape	No Tape
2 Beta	1	Green	Green	No Tape
2	2			No Tape
2	3	Brown	Brown	No Tape
2	4	White	White	No Tape
2	5	Red	Red	No Tape
2	6	Grey	Grey	No Tape
2	7	Purple	Purple	No Tape
2	8	Orange	Orange	No Tape
3 Gamma	1	Green	Green	Green
3	2			
3	3	Brown	Brown	Brown
3	4	White	White	White
3	5	Red	Red	Red
3	6	Grey	Grey	Grey
3	7	Purple	Purple	Purple
3	8	Orange	Orange	Orange

NV FREQUENCY	INDICATOR	ID
800-1	YEL	GRN
1900-1	YEL	RED
1900-2	YEL	BRN
1900-3	YEL	BLU
1900-4	YEL	SLT
800-1	YEL	ORG
RESERVED	YEL	WHT
RESERVED	YEL	PPL

2.5 FREQUENCY	INDICATOR		ID
2500 -1	YEL	WHT	GRN
2500 -2	YEL	WHT	RED
2500 -3	YEL	WHT	BRN
2500 -4	YEL	WHT	BLU
2500 -5	YEL	WHT	SLT
2500 -6	YEL	WHT	ORG
2500 -7	YEL	WHT	WHT
2500 -8	YEL	WHT	PPL

Example – Sector 2, Cable 2, 800mhz Radio #1

Example – Sector 3, Cable 1, 1900mhz Radio #1

Example – Sector 1, Cable 4, 800 mhz Radio #1 and 1900mhz Radio #1

COLOR CODING AND NOTES | NO SCALE | A

PLANS PREPARED FOR:

Sprint

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Overland Park, Kansas 66251

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CT33XC605

SITE ADDRESS:

86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:

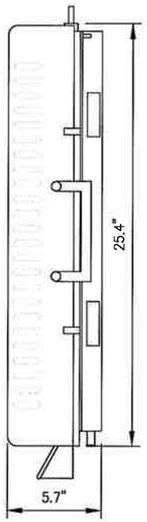
COLOR CODING AND NOTES

SHEET NUMBER:

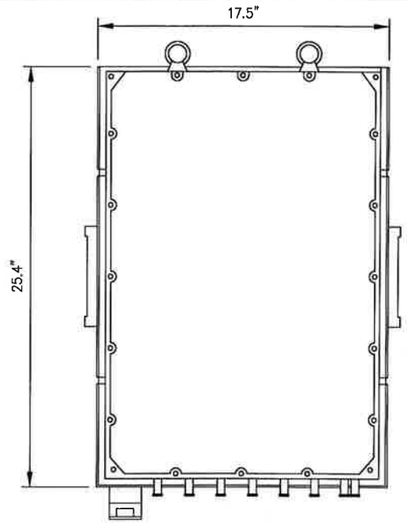
A-4

RRU: ALCATEL LUCENT TD-RRH8X20

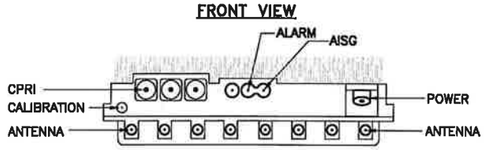
COLOR: LIGHT GREY
WEIGHT: 70 LBS.



SIDE VIEW



FRONT VIEW



PLAN VIEW

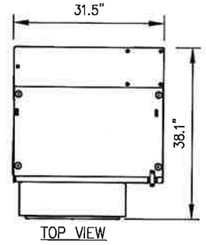
NOTES:

COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRU PACKAGES IN THE RAIN.

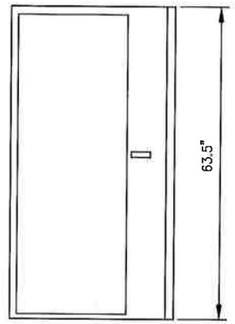
2.5 RRU'S | NO SCALE | 1

ALU MODEL 9927

DIMENSIONS, HxWxD: 65.5"x38.1"x31.5"



TOP VIEW



FRONT VIEW

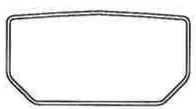
DESIGN CRITERIA:

2009 INTERNATIONAL BUILDING CODE W/ STATE MODIFICATION	
WIND SPEED (ASCE-7-05)	90 MPH
EXPOSURE B	
IMPORTANCE FACTOR	1.0
SEISMIC SITE CLASS	D
Ss=0.152 S¹=0.050	
SEISMIC IMPORTANCE FACTOR	1.0
SEISMIC DESIGN CATEGORY	B
9927 MM BTS CABINET WEIGHT:	594 LBS.
MATERIAL SPECIFICATIONS	
C-, M-, AND ANGLE SHAPES:	ASTM A36
HIGH-STRENGTH BOLTS:	ASTM A325SC OR (A325N)
STRUCTURAL WF SHAPES:	ASTM A572-GR50
TUBE STEEL & PIPE COLUMNS:	ASTM A500, GRADE B
WELDING ELECTRODES:	E70XX
W - SHAPES:	ASTM A992, GRADE 50
U-BOLTS:	ASTM A36

BTS CABINET DETAIL | NO SCALE | 2

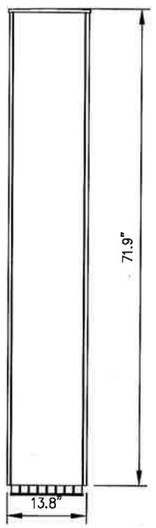
ANTENNA COMMSCOPE DT465B-2XR

RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD.in(mim):	71.9"x13.8"x8.2" (1825x350x209mm)
WEIGHT:	58 lbs
CONNECTORS:	(2) 7/16" DIN FEMALE
	(8) 4.1/9.5 DIN FEMALE



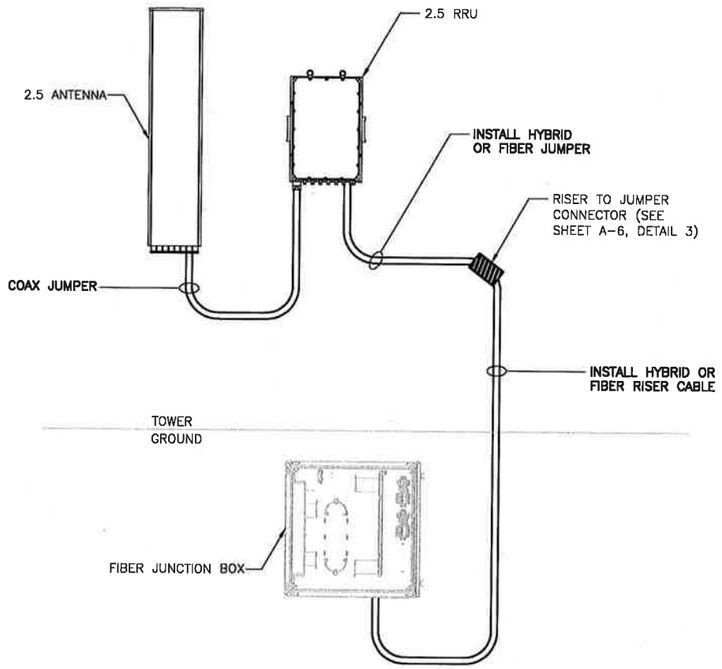
PLAN VIEW

SIDE VIEW



FRONT VIEW

2.5 DUAL BAND ANTENNA | NO SCALE | 3



CABLING SCHEMATIC | NO SCALE | 4

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PLANS PREPARED BY:

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NO. 24795
LICENSED PROFESSIONAL ENGINEER
11/28/17

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SITE CASCADE:

CT33XC605

SITE ADDRESS:

86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:

EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:

A-5

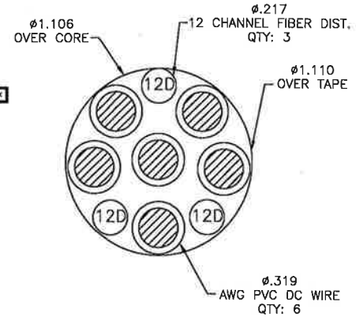
RFS HYBRIFLEX RISER CABLE SCHEDULE

Fiber Only (Existing DC Power)	Hybrid cable MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft	
	MN: HB058-M12-075F	75 ft	
	MN: HB058-M12-100F	100 ft	
	MN: HB058-M12-125F	125 ft	
	MN: HB058-M12-150F	150 ft	
	MN: HB058-M12-175F	175 ft	
	MN: HB058-M12-200F	200 ft	*
8 AWG Power	Hybrid cable MN: HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 50 ft	50 ft	
	MN: HB114-08U3M12-075F	75 ft	
	MN: HB114-08U3M12-100F	100 ft	
	MN: HB114-08U3M12-125F	125 ft	
	MN: HB114-08U3M12-150F	150 ft	
	MN: HB114-08U3M12-175F	175 ft	
	MN: HB114-08U3M12-200F	200 ft	
6 AWG Power	Hybrid cable MN: HB114-13U3M12-225F 3x 6 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 225 ft	225 ft	
	MN: HB114-13U3M12-250F	250 ft	
	MN: HB114-13U3M12-275F	275 ft	
	MN: HB114-13U3M12-300F	300 ft	
4 AWG Power	Hybrid cable MN: HB114-21U3M12-325F 3x 4 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 325 ft	325 ft	
	MN: HB114-21U3M12-350F	350 ft	
	MN: HB114-21U3M12-375F	375 ft	

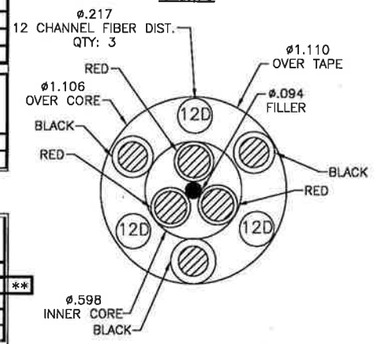
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

Fiber Only	Hybrid Jumper cable MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft	
	MN: HBF012-M3-10F1	10 ft	
	MN: HBF012-M3-15F1	15 ft	**
	MN: HBF012-M3-20F1	20 ft	
	MN: HBF012-M3-25F1	25 ft	
	MN: HBF012-M3-30F1	30 ft	
8 AWG Power	Hybrid Jumper cable MN: HBF058-08U1M3-5F1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft	
	MN: HBF058-08U1M3-10F1	10 ft	
	MN: HBF058-08U1M3-15F1	15 ft	
	MN: HBF058-08U1M3-20F1	20 ft	
	MN: HBF058-08U1M3-25F1	25 ft	
	MN: HBF058-08U1M3-30F1	30 ft	
6 AWG Power	Hybrid Jumper cable MN: HBF058-13U1M3-5F1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft	
	MN: HBF058-13U1M3-10F1	10 ft	
	MN: HBF058-13U1M3-15F1	15 ft	
	MN: HBF058-13U1M3-20F1	20 ft	
	MN: HBF058-13U1M3-25F1	25 ft	
	MN: HBF058-13U1M3-30F1	30 ft	
4 AWG Power	Hybrid Jumper cable MN: HBF078-21U1M3-5F1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 7/8 cable	5 ft	
	MN: HBF078-21U1M3-10F1	10 ft	
	MN: HBF078-21U1M3-15F1	15 ft	
	MN: HBF078-21U1M3-20F1	20 ft	
	MN: HBF078-21U1M3-25F1	25 ft	
	MN: HBF078-21U1M3-30F1	30 ft	

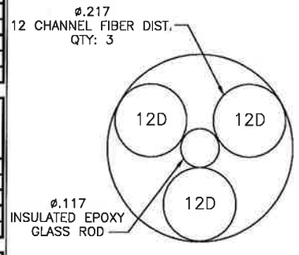
NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.



4 AWG

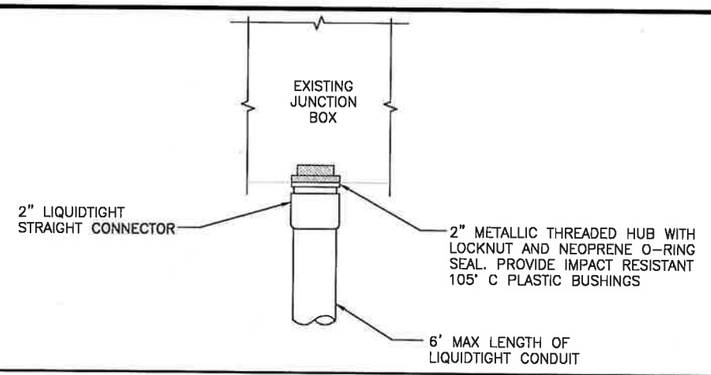


8 & 6 AWG



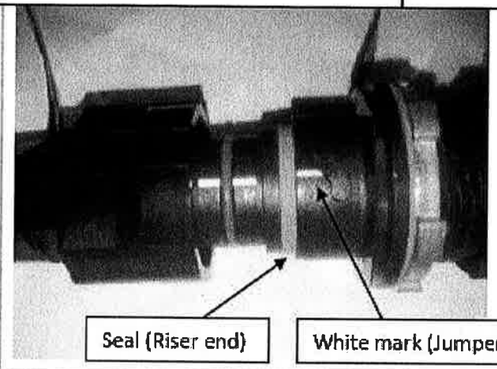
FIBER ONLY

2.5 CABLE CROSS SECTION DATA | NO SCALE | 1

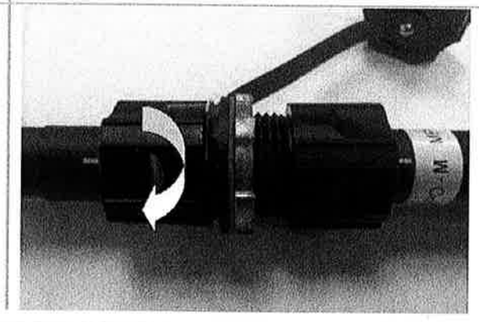


FIBER JUNCTION BOX PENETRATION | NO SCALE | 2

IMPORTANT!! Line up white markings on jumper and riser IP-MPO connectors and slide the riser connector to the jumper connector. Push the white mark on the jumper connector flush again the red seal on the riser connector.

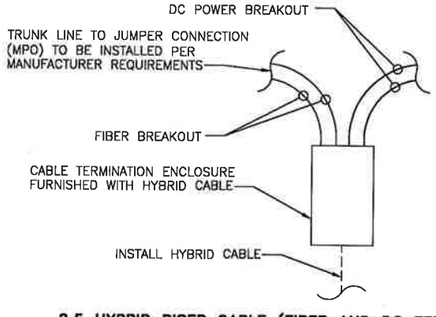


IMPORTANT!! Rotate the bayonet housing clock wise until you hear a click sound (means a good connection is in place).

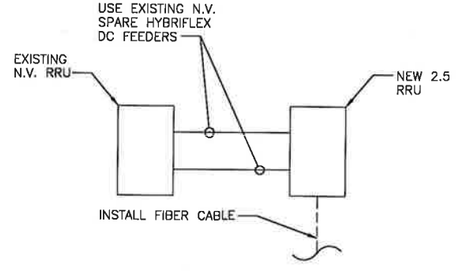


INFORMATION BASED ON PROVIDED INFORMATION FROM ALCATEL-LUCENT 2.5 GHz UPGRADE INSTALLATION GUIDE.

HYBRIFLEX RISER/JUMPER CONNECTION DETAIL | NO SCALE | 3



2.5 HYBRID RISER CABLE (FIBER AND DC FEEDERS)



FIBER ONLY RISER CABLE

TRUNK LINE DETAIL (TYP.) | NO SCALE | 4

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Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

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Albany, NY 12205
Office # (518) 690-0790
JOB NUMBER 526-102

Cherundolo Consulting

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
LICENSED PROFESSIONAL ENGINEER
NOV 28 2017

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR PERMIT	11/28/17	MPS	0
REVISED PER RFDS	09/29/17	MPS	B
ISSUED FOR REVIEW	07/26/17	JDL	A

SITE NAME:
BOARDMAN BRIDGE - ASI

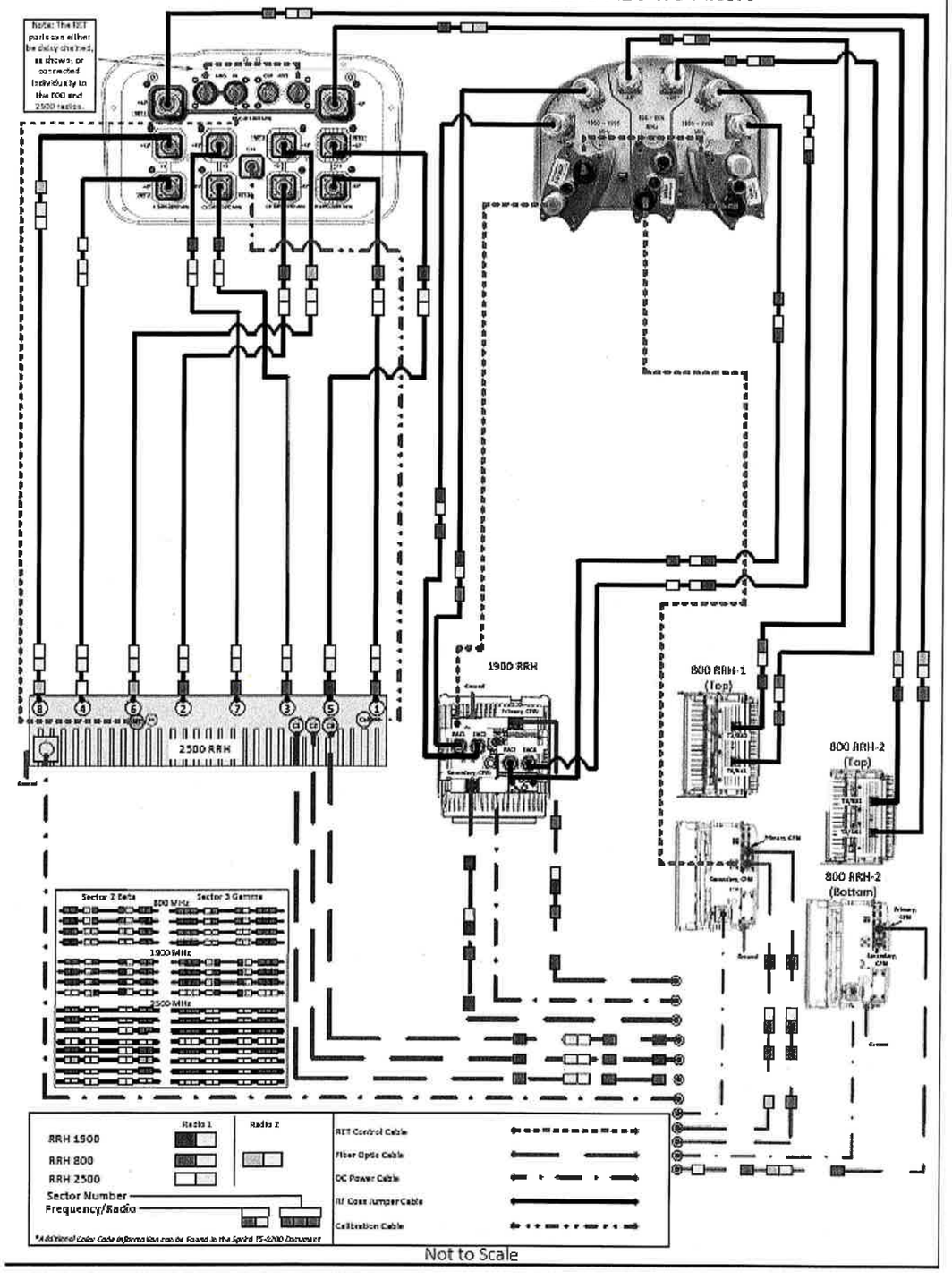
SITE CASCADE:
CT33XC605

SITE ADDRESS:
86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:
CIVIL DETAILS

SHEET NUMBER:
A-6

ALU 211 DT465B-2XR & APXVSPP18-C-A20 wo Filters



Not to Scale

PLUMBING DIAGRAM | NO SCALE | 1

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ISSUED FOR REVIEW	07/26/17	JDL	A

SITE NAME:

BOARDMAN BRIDGE - ASI

SITE CASCADE:

CT33XC605

SITE ADDRESS:

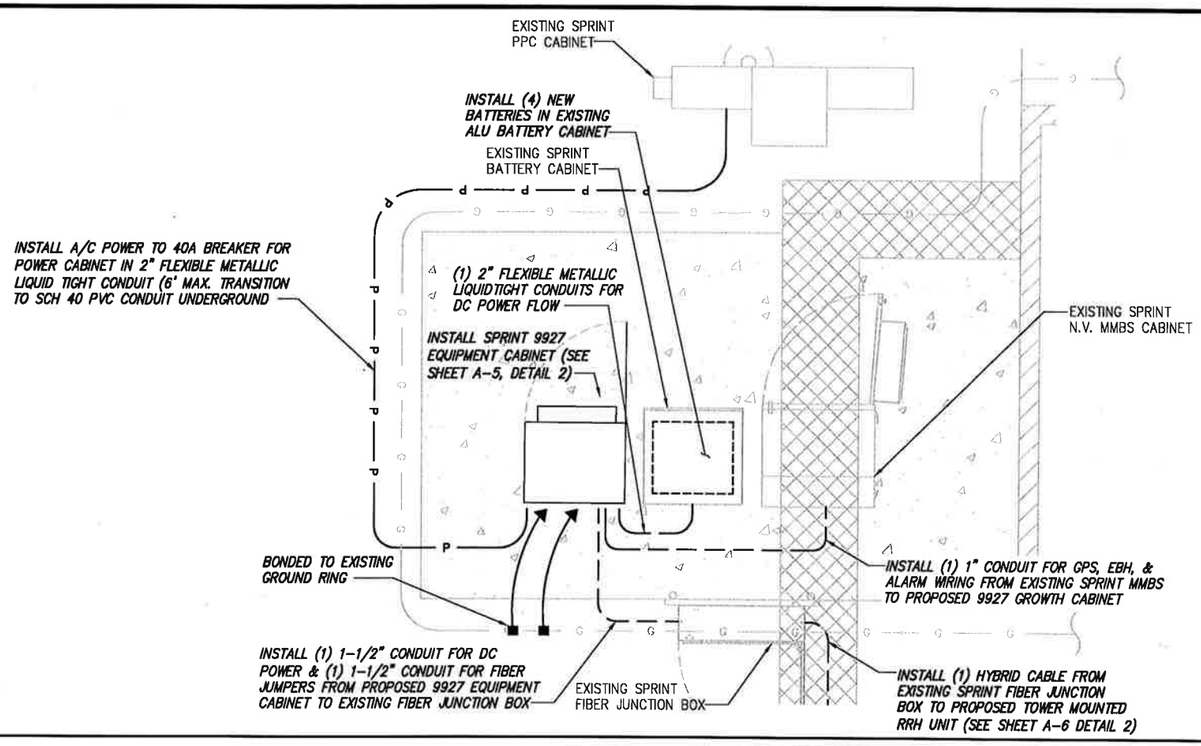
86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:

PLUMBING DIAGRAM

SHEET NUMBER:

A-7



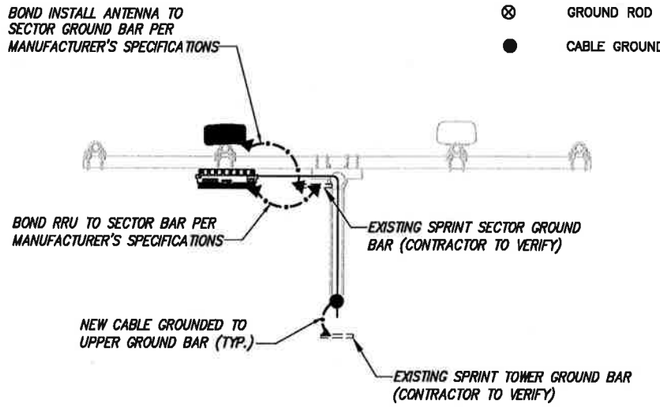
LEGEND:

- EXISTING GROUND RING
- CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION
- GROUND ROD
- CABLE GROUND KIT

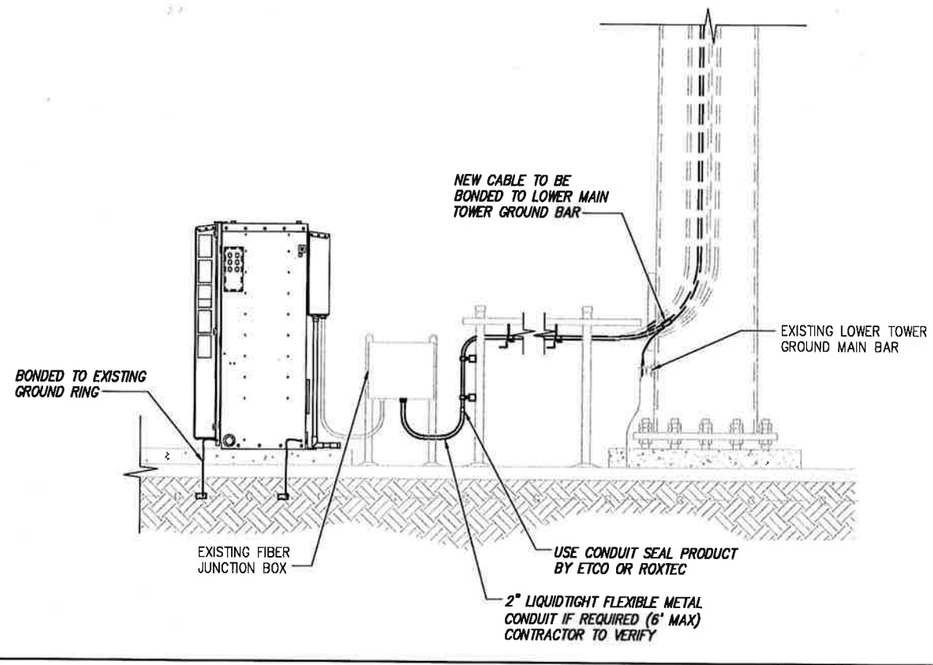
PLAN NOT USED | NO SCALE | 1

LEGEND:

- EXISTING GROUND RING
- CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION
- GROUND ROD
- CABLE GROUND KIT



TYPICAL ANTENNA GROUNDING PLAN | NO SCALE | 2



TYPICAL EQUIPMENT GROUNDING PLAN (ELEVATION) | NO SCALE | 3

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REVISED PER RFDS	09/29/17	MPS	B
ISSUED FOR REVIEW	07/26/17	JDL	A

SITE NAME:

BOARDMAN BRIDGE - ASI

SITE CASCADE:

CT33XC605

SITE ADDRESS:

86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:

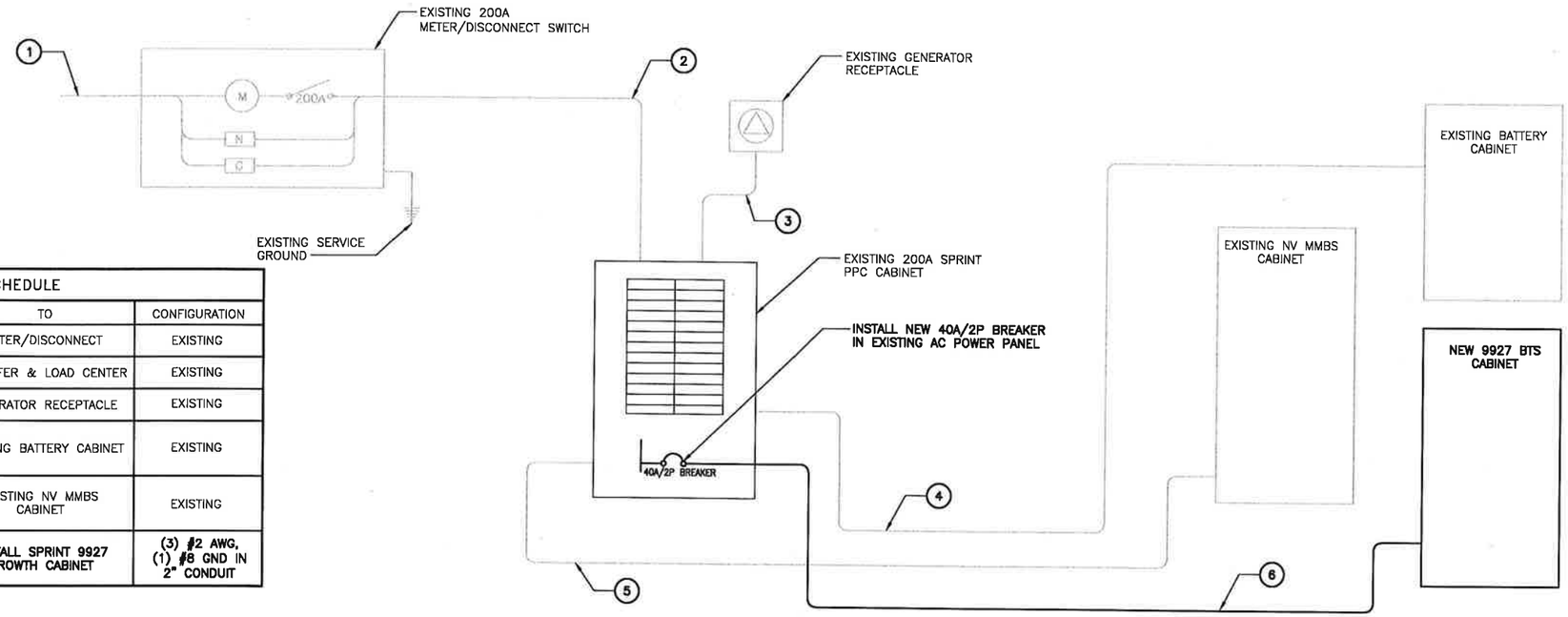
ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:

E-1

NOTES

GC SHALL REFERENCE ALL SPECS FOR "CONNECTING THE POWER SUPPLY" OF THE NEW INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.

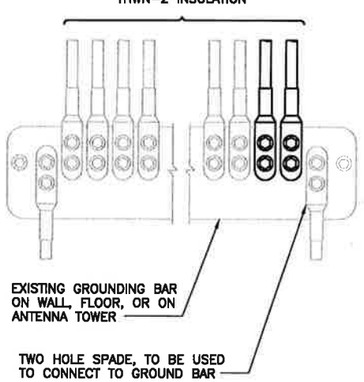


CIRCUIT SCHEDULE

NO	FROM	TO	CONFIGURATION
1	UTILITY SOURCE	METER/DISCONNECT	EXISTING
2	METER/DISCONNECT	TRANSFER & LOAD CENTER	EXISTING
3	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
4	TRANSFER & LOAD CENTER	EXISTING BATTERY CABINET	EXISTING
5	TRANSFER & LOAD CENTER	EXISTING NV MMBS CABINET	EXISTING
6	**TRANSFER & LOAD CENTER**	**INSTALL SPRINT 9927 GROWTH CABINET**	**(3) #2 AWG, (1) #8 GND IN 2" CONDUIT**

ELECTRICAL ONE-LINE DIAGRAM

NO SCALE | 1

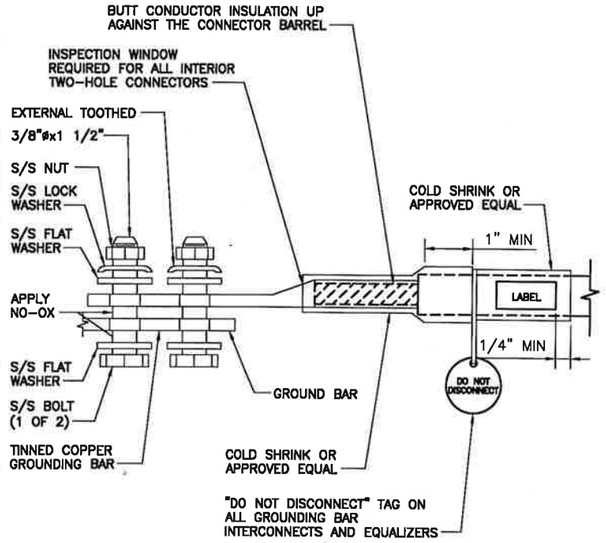


NOTES

1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

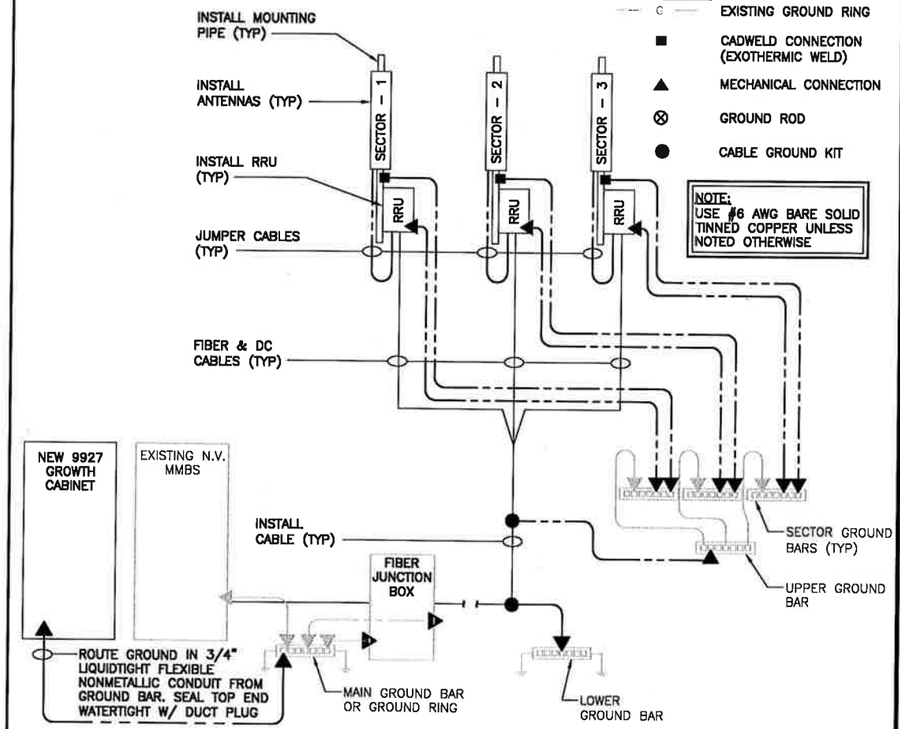
INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR

NO SCALE | 2



TWO HOLE LUG

NO SCALE | 3



GROUNDING RISER DIAGRAM

NO SCALE | 4

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Overland Park, Kansas 66251

PLANS PREPARED BY:

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ISSUED FOR REVIEW	07/26/17	JDL	A

SITE NAME:

BOARDMAN BRIDGE - ASI

SITE CASCADE:

CT33XC605

SITE ADDRESS:

86 BOARDMAN ROAD
NEW MILFORD, CT 06776

SHEET DESCRIPTION:

ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER:

E-2

EBI Consulting
environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

SPRINT Existing Facility

Site ID: CT33XC605

Boardman Bridge - ASI
86 Boardman Road
New Milford, CT 06776

December 8, 2017

EBI Project Number: 6217005527

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	13.70 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

December 8, 2017

SPRINT
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: **CT33XC605 – Boardman Bridge - ASI**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **86 Boardman Road, New Milford, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 850 MHz Band is approximately 567 $\mu W/cm^2$. The general population exposure limit for the 1900 MHz (PCS) and 2500 MHz (BRS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed SPRINT Wireless antenna facility located at **86 Boardman Road, New Milford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 1 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

2) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

3) 5 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 16 Watts per Channel.

4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

5) 8 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

7) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antennas used in this modeling are the **RFS APXVSPP18-C-A20 and the RFS DT465B-2XR** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antenna mounting height centerlines of the proposed antennas are **150 feet** above ground level (AGL) for **Sector A**, **150 feet** above ground level (AGL) for **Sector B** and **150 feet** above ground level (AGL) for Sector C.

10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general public threshold limits.

SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	RFS APXVSPP18-C-A20	Make / Model:	RFS APXVSPP18-C-A20	Make / Model:	RFS APXVSPP18-C-A20
Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd
Height (AGL):	**150 feet**	Height (AGL):	**150 feet**	Height (AGL):	**150 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	220 Watts	Total TX Power(W):	220 Watts	Total TX Power(W):	220 Watts
ERP (W):	7,537.38	ERP (W):	7,537.38	ERP (W):	7,537.38
Antenna A1 MPE%	**1.48 %**	Antenna B1 MPE%	**1.48 %**	Antenna C1 MPE%	**1.48 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Commscope DT465B-2XR	Make / Model:	Commscope DT465B-2XR	Make / Model:	Commscope DT465B-2XR
Gain:	15.05 dBd	Gain:	15.05 dBd	Gain:	15.05 dBd
Height (AGL):	**150 feet**	Height (AGL):	**150 feet**	Height (AGL):	**150 feet**
Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts
ERP (W):	5,118.23	ERP (W):	5,118.23	ERP (W):	5,118.23
Antenna A2 MPE%	**0.89 %**	Antenna B2 MPE%	**0.89 %**	Antenna C2 MPE%	**0.89 %**

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Max per sector	**2.37 %**
AT&T	6.96 %
Verizon Wireless	3.45 %
T-Mobile	0.92 %
Site Total MPE %:	**13.70 %**

SPRINT Sector A Total:	2.37 %
SPRINT Sector B Total:	2.37 %
SPRINT Sector C Total:	2.37 %
Site Total:	13.70 %

SPRINT _ Frequency Band / Technology (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Sprint 850 MHz CDMA	1	437.55	150	0.76	850 MHz	567	0.13%
Sprint 850 MHz LTE	2	437.55	150	1.52	850 MHz	567	0.27%
Sprint 1900 MHz (PCS) CDMA	5	622.47	150	5.40	1900 MHz (PCS)	1000	0.54%
Sprint 1900 MHz (PCS) LTE	2	1,556.18	150	5.40	1900 MHz (PCS)	1000	0.54%
Sprint 2500 MHz (BRS) LTE	8	639.78	150	8.87	2500 MHz (BRS)	1000	0.89%
						Total:	**2.37%**

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the SPRINT facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

SPRINT Sector	Power Density Value (%)
Sector A:	2.37 %
Sector B:	2.37 %
Sector C:	2.37 %
SPRINT Maximum Total (per sector):	2.37 %
Site Total:	13.70 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **13.70 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

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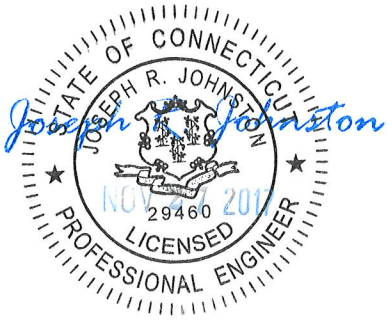
1033 WATERVLIET SHAKER RD, ALBANY, NY 12205

Structural Analysis Report

November 27, 2017

Site Name	Boardman Bridge – ASI
Cell Site ID	CT33XC605
Infinigy Job Number	526-102
Client	Cherundolo
Proposed Carrier	Sprint
Site Location	86 Boardman Road, New Milford, CT 06676 41° 35' 57.88" N NAD83 73° 26' 14.93" W NAD83
Structure Type	Monopine
Structural Usage Ratio	**68.6%**
Overall Result	**Pass**

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements. The tower is therefore deemed adequate to support the existing and proposed loading as listed in this report.



Richmond Lam, EI
Structural Engineer I

Contents

Introduction

Infinigy Engineering has been requested to perform a structural analysis on the existing 153' Monopine. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The tower was analyzed using tnxTower version 7.0.8.5 tower analysis software.

Supporting Documentation

Antenna Loading	Sprint RFDS, dated April 22, 2017
Previous Analysis	KM Consulting No. 120834.00, dated August 22, 2012
Construction Drawings	Infinigy Job #526-102 Reviewed, October 18, 2017

Analysis Code Requirements

Wind Speed	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
Wind Speed w/ ice	40 mph (3-Second Gust) w/ 1" ice
TIA Revision	ANSI/TIA-222-G
Adopted IBC	2012 IBC / 2016 Connecticut State Building Code
Structure Class	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft.

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements. The tower is therefore deemed adequate to support the existing and proposed loading as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

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Existing and Reserved Loading

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
150.0	2	2.0' Dish	Pipe	--	Unknown
	1	10.0 Dipole	Sector Mount	(1) 7/8 (9) 1 5/8 (1) 1 1/2	Sprint
	3	RFS APXVSPP18-C-A20			
	3	ALU 800 MHz RHH			
	3	ALU 1900 MHz RRH			
	3	10.0 Branch	Direct	--	Other
140.0	3	53"x7"x3" Panel	Sector Mount	(6) 1 5/8	T-Mobile
	6	10"x8"x3" TMA			
	3	10.0 Branch	Direct	--	Other
130.0	6	Antel LPA-80080/4CF	Sector Mount	(12) 1 5/8	Verizon
	3	Antel BXA-171085-8BF-EDIN-X			
	3	Antel BXA-70063/6CF			
	6	RFS FD9R6004/2C-3L			
	3	10.0 Branch	Direct	--	Other
120.0	6	Powerwave 7700.00	Sector Frame	(12) 1 5/8	AT&T
	6	Powerwave LGP21401			
	6	Powerwave LGP21901			
	3	10.0 Branch	Direct	--	Other
110.0	3	10.0 Branch	Direct	--	Other
100.0	3	10.0 Branch	Direct	--	Other
90.0	3	10.0 Branch	Direct	--	Other
80.0	3	10.0 Branch	Direct	--	Other

To Be Removed Loading

No loading to be removed.

Proposed Loading

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
150.0	3	Commscope DT465B-2XR	Sector	(1) 1 1/2	Sprint
	3	ALU RRH2x50-800			
	3	ALU TD-RRH8x20			

Final Configuration

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
150.0	2	2.0' Dish	Pipe	--	Unknown
	1	10.0 Dipole	Sector Mount	(1) 7/8 (9) 1 5/8 (2) 1 1/2	Sprint
	3	Commscope DT465B-2XR			
	3	ALU RRH2x50-800			
	3	ALU TD-RRH8x20			
	3	RFS APXVSPP18-C-A20			
	3	ALU 800 MHz RHH			
	3	ALU 1900 MHz RRH			
	3	10.0 Branch	Direct	--	Other
140.0	3	53"x7"x3" Panel	Sector Mount	(6) 1 5/8	T-Mobile
	6	10"x8"x3" TMA			
	3	10.0 Branch	Direct	--	Other
130.0	6	Antel LPA-80080/4CF	Sector Mount	(12) 1 5/8	Verizon
	3	Antel BXA-171085-8BF-EDIN-X			
	3	Antel BXA-70063/6CF			
	6	RFS FD9R6004/2C-3L			
	3	10.0 Branch	Direct	--	Other
120.0	6	Powerwave 7700.00	Sector Frame	(12) 1 5/8	AT&T
	6	Powerwave LGP21401			
	6	Powerwave LGP21901			
	3	10.0 Branch	Direct	--	Other
110.0	3	10.0 Branch	Direct	--	Other
100.0	3	10.0 Branch	Direct	--	Other
90.0	3	10.0 Branch	Direct	--	Other
80.0	3	10.0 Branch	Direct	--	Other

Structure Usages

Pole (L2)	68.6%	Pass
RATING =	**68.6%**	**Pass**

Foundation Reactions

The existing foundation was not evaluated because no information was made available at the time of this analysis.

Deflection, Twist, and Sway

Antenna Elevation (ft)	Deflection (in)	Twist (°)	Sway (°)
150.0	18.237	0.052	1.076

*Per ANSI/TIA-222-G Section 2.8.2 maximum serviceability structural deflection limit is 3% of structure height.
*Per ANSI/TIA-222-G Section 2.8.2 maximum serviceability structural twist and sway limit is 4 degrees.
*Per ANSI/TIA-222-G Section 2.8.3 deflection, Twist, and sway values were calculated using a basic 3-second gust wind speed of 60 mph.
*It is the responsibility of the client to ensure their proposed and/or existing equipment will meet ANSI/TIA-222-G Annex D or other appropriate microwave signal degradation limits based on the provided values above.

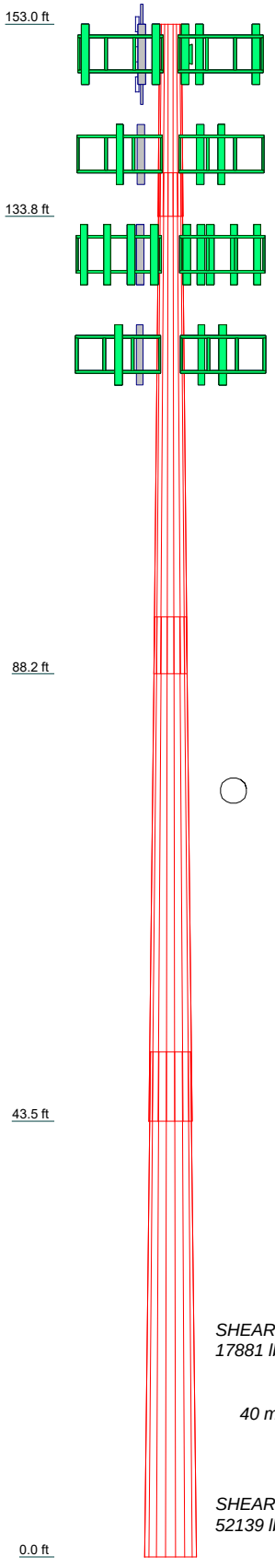
Assumptions and Limitations

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of "like new" and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the tower structure only and does not reflect adequacy of any existing antenna mounts, mount connections, or cable mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
1	19.17	18	0.1875	4.33	25.2500	30.0300		1065.7
2	50.00	18	0.3125	5.67	28.5746	40.9100		5810.3
3	50.29	18	0.5000	6.92	38.8871	51.2800	A572-65	12107.9
4	50.46	18	0.5625		48.5756	61.0000		16621.7
								35605.6



ALL REACTIONS ARE FACTORED

AXIAL
98548 lb

SHEAR
17881 lb

MOMENT
2145271 lb-ft

TORQUE 29243 lb-ft
40 mph WIND - 1.0000 in ICE

AXIAL
58786 lb

SHEAR
52139 lb

MOMENT
5957382 lb-ft

TORQUE 66302 lb-ft
REACTIONS - 97 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
10' Dipole (Sprint)	150	(2) FD9R6004/2C-3L (Verizon)	130
DT465B-2XR (Sprint)	150	Angle Sector Frame (Verizon)	130
DT465B-2XR (Sprint)	150	Angle Sector Frame (Verizon)	130
DT465B-2XR (Sprint)	150	Angle Sector Frame (Verizon)	130
RRH2x50-800 (Sprint)	150	(2) LPA-80080/4CF (Verizon)	130
RRH2x50-800 (Sprint)	150	(2) LPA-80080/4CF (Verizon)	130
RRH2x50-800 (Sprint)	150	(2) LPA-80080/4CF (Verizon)	130
TD-RRH8X20 (Sprint)	150	BXA-171085-8BF-EDIN-X (Verizon)	130
TD-RRH8X20 (Sprint)	150	BXA-171085-8BF-EDIN-X (Verizon)	130
TD-RRH8X20 (Sprint)	150	BXA-171085-8BF-EDIN-X (Verizon)	130
APXVSPP18-C-A20 (Sprint)	150	10' Pine Branch (Other)	130
APXVSPP18-C-A20 (Sprint)	150	10' Pine Branch (Other)	130
APXVSPP18-C-A20 (Sprint)	150	10' Pine Branch (Other)	130
800 MHz RRH (Sprint)	150	BXA-70063/6CF (Verizon)	130
800 MHz RRH (Sprint)	150	BXA-70063/6CF (Verizon)	130
800 MHz RRH (Sprint)	150	Angle Sector Frame (ATI)	120
1900MHz RRH (Sprint)	150	(2) 7700.00 (ATI)	120
1900MHz RRH (Sprint)	150	(2) 7700.00 (ATI)	120
1900MHz RRH (Sprint)	150	(2) 7700.00 (ATI)	120
Angle Sector Frame (Sprint)	150	(2) LGP21401 (ATI)	120
Angle Sector Frame (Sprint)	150	(2) LGP21401 (ATI)	120
Angle Sector Frame (Sprint)	150	(2) LGP21401 (ATI)	120
10' Pine Branch (Other)	150	(2) LGP21901 (ATI)	120
10' Pine Branch (Other)	150	(2) LGP21901 (ATI)	120
10' Pine Branch (Other)	150	(2) LGP21901 (ATI)	120
2' Std. Dish (Other)	150	10' Pine Branch (Other)	120
2' Std. Dish (Other)	150	10' Pine Branch (Other)	120
(2) 10"x8"x3" TMA (T-Mobile)	140	10' Pine Branch (Other)	120
Angle Sector Frame (T-Mobile)	140	Angle Sector Frame (ATI)	120
Angle Sector Frame (T-Mobile)	140	Angle Sector Frame (ATI)	120
Angle Sector Frame (T-Mobile)	140	10' Pine Branch (Other)	110
53"x7"x3" Panel (T-Mobile)	140	10' Pine Branch (Other)	110
53"x7"x3" Panel (T-Mobile)	140	10' Pine Branch (Other)	110
53"x7"x3" Panel (T-Mobile)	140	10' Pine Branch (Other)	100
10' Pine Branch (Other)	140	10' Pine Branch (Other)	100
10' Pine Branch (Other)	140	10' Pine Branch (Other)	100
10' Pine Branch (Other)	140	10' Pine Branch (Other)	90
(2) 10"x8"x3" TMA (T-Mobile)	140	10' Pine Branch (Other)	90
(2) 10"x8"x3" TMA (T-Mobile)	140	10' Pine Branch (Other)	90
BXA-70063/6CF (Verizon)	130	10' Pine Branch (Other)	80
(2) FD9R6004/2C-3L (Verizon)	130	10' Pine Branch (Other)	80
(2) FD9R6004/2C-3L (Verizon)	130	10' Pine Branch (Other)	80

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 40 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 68.6%

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Job: ***526-102***			
Project: ***CT33XC605***			
Client: Cherundolo Consulting	Drawn by: rlam	App'd:	
Code: TIA-222-G	Date: 11/27/17	Scale: NTS	
Path: C:\Users\rlam\Desktop\CT33XC605\Calcs\Rev F\Now to Rev G\CT33XC605.eri		Dwg No. E-1	

Tower Input Data

There is a pole section.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Litchfield County, Connecticut.
Basic wind speed of 97 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 40 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area	√	SR Leg Bolts Resist Compression
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r	√	All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys	√	Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice		Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients	√	Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
√	Include Bolts In Member Capacity	√	Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
√	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component		Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)	√	Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric				

Tapered Pole Section Geometry

Section	*Elevation*	*Section Length*	*Splice Length*	*Number of Sides*	*Top Diameter*	*Bottom Diameter*	*Wall Thickness*	*Bend Radius*	*Pole Grade*
	ft	*ft*	*ft*		*in*	*in*	*in*	*in*	
L1	153.00-133.83	19.17	4.33	18	25.2500	30.0300	0.1875	0.7500	A572-65 (65 ksi)
L2	133.83-88.16	50.00	5.67	18	28.5746	40.9100	0.3125	1.2500	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L3	88.16-43.54	50.29	6.92	18	38.8871	51.2800	0.5000	2.0000	A572-65 (65 ksi)
L4	43.54-0.00	50.46		18	48.5756	61.0000	0.5625	2.2500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	25.6395	14.9153	1183.6378	8.8972	12.8270	92.2771	2368.8330	7.4591	4.1140	21.941
	30.4933	17.7600	1998.2566	10.5941	15.2552	130.9882	3999.1425	8.8817	4.9553	26.428
L2	30.1009	28.0324	2828.8279	10.0330	14.5159	194.8781	5661.3781	14.0189	4.4791	14.333
	41.5411	40.2676	8384.7915	14.4121	20.7823	403.4587	16780.6158	20.1376	6.6502	21.281
L3	40.9048	60.9204	11341.5389	13.6274	19.7547	574.1193	22698.0013	30.4660	5.9641	11.928
	52.0711	80.5879	26253.8178	18.0269	26.0502	1007.8148	52542.1810	40.3016	8.1453	16.291
L4	51.0544	85.7213	24965.7721	17.0446	24.6764	1011.7274	49964.3948	42.8688	7.5593	13.439
	61.9410	107.9036	49795.0730	21.4553	30.9880	1606.9147	99655.6677	53.9621	9.7460	17.326

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 153.00-133.83				1	1	1			
L2 133.83-88.16				1	1	1			
L3 88.16-43.54				1	1	1			
L4 43.54-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF5-50A (7/8") (Town)	C	No	Inside Pole	150.00 - 4.00	1	No Ice	0.00	0.20
						1/2" Ice	0.00	0.20
						1" Ice	0.00	0.20
***								
1 5/8 (Sprint)	C	No	Inside Pole	150.00 - 4.00	9	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04
						1" Ice	0.00	1.04
1-1/2" Hybrid (Sprint)	C	No	Inside Pole	150.00 - 4.00	3	No Ice	0.00	1.00
						1/2" Ice	0.00	1.00
						1" Ice	0.00	1.00
1-1/2" Hybrid (Sprint)	C	No	Inside Pole	150.00 - 4.00	1	No Ice	0.00	1.00
						1/2" Ice	0.00	1.00
						1" Ice	0.00	1.00
***								
1 5/8 (T-Mobile)	C	No	Inside Pole	141.00 - 4.00	6	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04
						1" Ice	0.00	1.04

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
***								
1 5/8 (Verizon)	C	No	Inside Pole	131.00 - 4.00	12	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04
						1" Ice	0.00	1.04
***								
1 5/8 (AT&T)	C	No	Inside Pole	121.00 - 4.00	12	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04
						1" Ice	0.00	1.04

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L1	153.00-133.83	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	264.01
		D	0.000	0.000	0.000	0.000	0.00
L2	133.83-88.16	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	1848.62
		D	0.000	0.000	0.000	0.000	0.00
L3	88.16-43.54	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	1997.37
		D	0.000	0.000	0.000	0.000	0.00
L4	43.54-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	1769.77
		D	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L1	153.00-133.83	A	2.316	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	264.01
		D		0.000	0.000	0.000	0.000	0.00
L2	133.83-88.16	A	2.256	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	1848.62
		D		0.000	0.000	0.000	0.000	0.00
L3	88.16-43.54	A	2.142	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	1997.37
		D		0.000	0.000	0.000	0.000	0.00
L4	43.54-0.00	A	1.913	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	1769.77
		D		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	153.00-133.83	0.0000	0.0000	0.0000	0.0000
L2	133.83-88.16	0.0000	0.0000	0.0000	0.0000
L3	88.16-43.54	0.0000	0.0000	0.0000	0.0000
L4	43.54-0.00	0.0000	0.0000	0.0000	0.0000

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
10' Dipole	A	From Leg	3.00	0.000	150.00	No Ice	3.00	3.00	30.00
(Sprint)			0.00			1/2" Ice	4.03	4.03	51.79
			0.00			1" Ice	5.03	5.03	80.14
DT465B-2XR	A	From Leg	3.00	0.000	150.00	No Ice	9.22	5.87	58.00
(Sprint)			0.00			1/2" Ice	9.69	6.32	116.04
			0.00			1" Ice	10.16	6.79	180.37
DT465B-2XR	B	From Leg	3.00	0.000	150.00	No Ice	9.22	5.87	58.00
(Sprint)			0.00			1/2" Ice	9.69	6.32	116.04
			0.00			1" Ice	10.16	6.79	180.37
DT465B-2XR	C	From Leg	3.00	0.000	150.00	No Ice	9.22	5.87	58.00
(Sprint)			0.00			1/2" Ice	9.69	6.32	116.04
			0.00			1" Ice	10.16	6.79	180.37
RRH2x50-800	A	From Leg	3.00	0.000	150.00	No Ice	1.70	1.28	53.00
(Sprint)			0.00			1/2" Ice	1.86	1.43	70.01
			0.00			1" Ice	2.03	1.58	89.71
RRH2x50-800	B	From Leg	3.00	0.000	150.00	No Ice	1.70	1.28	53.00
(Sprint)			0.00			1/2" Ice	1.86	1.43	70.01
			0.00			1" Ice	2.03	1.58	89.71
RRH2x50-800	C	From Leg	3.00	0.000	150.00	No Ice	1.70	1.28	53.00
(Sprint)			0.00			1/2" Ice	1.86	1.43	70.01
			0.00			1" Ice	2.03	1.58	89.71
TD-RRH8X20	A	From Leg	3.00	0.000	150.00	No Ice	3.70	1.29	66.14
(Sprint)			0.00			1/2" Ice	3.95	1.46	90.08
			0.00			1" Ice	4.20	1.64	117.36
TD-RRH8X20	B	From Leg	3.00	0.000	150.00	No Ice	3.70	1.29	66.14
(Sprint)			0.00			1/2" Ice	3.95	1.46	90.08
			0.00			1" Ice	4.20	1.64	117.36
TD-RRH8X20	C	From Leg	3.00	0.000	150.00	No Ice	3.70	1.29	66.14
(Sprint)			0.00			1/2" Ice	3.95	1.46	90.08
			0.00			1" Ice	4.20	1.64	117.36

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
APXVSPP18-C-A20	A	From Leg	3.00		0.000	150.00	No Ice	8.02	5.28	57.00
(Sprint)			0.00				1/2" Ice	8.48	5.74	106.52
			0.00				1" Ice	8.94	6.20	162.12
APXVSPP18-C-A20	B	From Leg	3.00		0.000	150.00	No Ice	8.02	5.28	57.00
(Sprint)			0.00				1/2" Ice	8.48	5.74	106.52
			0.00				1" Ice	8.94	6.20	162.12
APXVSPP18-C-A20	C	From Leg	3.00		0.000	150.00	No Ice	8.02	5.28	57.00
(Sprint)			0.00				1/2" Ice	8.48	5.74	106.52
			0.00				1" Ice	8.94	6.20	162.12
800 MHz RRH	A	From Leg	3.00		0.000	150.00	No Ice	1.93	2.06	64.00
(Sprint)			0.00				1/2" Ice	2.11	2.24	86.12
			0.00				1" Ice	2.29	2.43	111.30
800 MHz RRH	B	From Leg	3.00		0.000	150.00	No Ice	1.93	2.06	64.00
(Sprint)			0.00				1/2" Ice	2.11	2.24	86.12
			0.00				1" Ice	2.29	2.43	111.30
800 MHz RRH	C	From Leg	3.00		0.000	150.00	No Ice	1.93	2.06	64.00
(Sprint)			0.00				1/2" Ice	2.11	2.24	86.12
			0.00				1" Ice	2.29	2.43	111.30
1900MHz RRH	A	From Leg	3.00		0.000	150.00	No Ice	2.31	2.38	60.00
(Sprint)			0.00				1/2" Ice	2.52	2.58	83.90
			0.00				1" Ice	2.73	2.79	111.08
1900MHz RRH	B	From Leg	3.00		0.000	150.00	No Ice	2.31	2.38	60.00
(Sprint)			0.00				1/2" Ice	2.52	2.58	83.90
			0.00				1" Ice	2.73	2.79	111.08
1900MHz RRH	C	From Leg	3.00		0.000	150.00	No Ice	2.31	2.38	60.00
(Sprint)			0.00				1/2" Ice	2.52	2.58	83.90
			0.00				1" Ice	2.73	2.79	111.08
Angle Sector Frame	A	From Leg	3.00		0.000	150.00	No Ice	17.90	8.95	400.00
(Sprint)			0.00				1/2" Ice	22.20	13.00	510.00
			0.00				1" Ice	26.50	17.05	620.00
Angle Sector Frame	B	From Leg	3.00		0.000	150.00	No Ice	17.90	8.95	400.00
(Sprint)			0.00				1/2" Ice	22.20	13.00	510.00
			0.00				1" Ice	26.50	17.05	620.00
Angle Sector Frame	C	From Leg	3.00		0.000	150.00	No Ice	17.90	8.95	400.00
(Sprint)			0.00				1/2" Ice	22.20	13.00	510.00
			0.00				1" Ice	26.50	17.05	620.00
***										
53"x7"x3" Panel	A	From Leg	3.00		0.000	140.00	No Ice	3.66	1.94	45.00
(T-Mobile)			0.00				1/2" Ice	4.00	2.26	64.93
			0.00				1" Ice	4.33	2.59	89.14
53"x7"x3" Panel	B	From Leg	3.00		0.000	140.00	No Ice	3.66	1.94	45.00
(T-Mobile)			0.00				1/2" Ice	4.00	2.26	64.93
			0.00				1" Ice	4.33	2.59	89.14
53"x7"x3" Panel	C	From Leg	3.00		0.000	140.00	No Ice	3.66	1.94	45.00
(T-Mobile)			0.00				1/2" Ice	4.00	2.26	64.93
			0.00				1" Ice	4.33	2.59	89.14
(2) 10"x8"x3" TMA	A	From Leg	3.00		0.000	140.00	No Ice	0.67	0.26	20.00
(T-Mobile)			0.00				1/2" Ice	0.77	0.33	25.06
			0.00				1" Ice	0.88	0.41	31.67
(2) 10"x8"x3" TMA	B	From Leg	3.00		0.000	140.00	No Ice	0.67	0.26	20.00
(T-Mobile)			0.00				1/2" Ice	0.77	0.33	25.06
			0.00				1" Ice	0.88	0.41	31.67
(2) 10"x8"x3" TMA	C	From Leg	3.00		0.000	140.00	No Ice	0.67	0.26	20.00
(T-Mobile)			0.00				1/2" Ice	0.77	0.33	25.06
			0.00				1" Ice	0.88	0.41	31.67
Angle Sector Frame	A	From Leg	3.00		0.000	140.00	No Ice	17.90	8.95	400.00
(T-Mobile)			0.00				1/2" Ice	22.20	13.00	510.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1" Ice	26.50	17.05	620.00
Angle Sector Frame (T-Mobile)	B	From Leg	3.00 0.00 0.00	0.000	140.00	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
Angle Sector Frame (T-Mobile)	C	From Leg	3.00 0.00 0.00	0.000	140.00	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
***									
(2) LPA-80080/4CF (Verizon)	A	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	2.62 2.92 3.23	5.40 5.73 6.06	12.00 45.12 82.72
(2) LPA-80080/4CF (Verizon)	B	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	2.62 2.92 3.23	5.40 5.73 6.06	12.00 45.12 82.72
(2) LPA-80080/4CF (Verizon)	C	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	2.62 2.92 3.23	5.40 5.73 6.06	12.00 45.12 82.72
BXA-171085-8BF-EDIN-X (Verizon)	A	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	2.94 3.26 3.57	2.16 2.46 2.77	10.50 29.28 52.05
BXA-171085-8BF-EDIN-X (Verizon)	B	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	2.94 3.26 3.57	2.16 2.46 2.77	10.50 29.28 52.05
BXA-171085-8BF-EDIN-X (Verizon)	C	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	2.94 3.26 3.57	2.16 2.46 2.77	10.50 29.28 52.05
BXA-70063/6CF (Verizon)	A	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	7.57 8.02 8.47	4.04 4.48 4.92	14.90 56.85 104.64
BXA-70063/6CF (Verizon)	B	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	7.57 8.02 8.47	4.04 4.48 4.92	14.90 56.85 104.64
BXA-70063/6CF (Verizon)	C	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	7.57 8.02 8.47	4.04 4.48 4.92	14.90 56.85 104.64
(2) FD9R6004/2C-3L (Verizon)	A	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	0.31 0.39 0.47	0.08 0.12 0.17	2.60 4.90 8.29
(2) FD9R6004/2C-3L (Verizon)	B	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	0.31 0.39 0.47	0.08 0.12 0.17	2.60 4.90 8.29
(2) FD9R6004/2C-3L (Verizon)	C	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	0.31 0.39 0.47	0.08 0.12 0.17	2.60 4.90 8.29
Angle Sector Frame (Verizon)	A	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
Angle Sector Frame (Verizon)	B	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
Angle Sector Frame (Verizon)	C	From Leg	3.00 0.00 0.00	0.000	130.00	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
***									
(2) 7700.00 (AT&T)	A	From Leg	3.00 0.00 0.00	0.000	120.00	No Ice 1/2" Ice 1" Ice	1.45 1.63 1.82	0.82 1.00 1.18	22.00 31.66 43.84

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(2) 7700.00	B	From Leg	3.00		0.000	120.00	No Ice	1.45	0.82	22.00
(AT&T)			0.00				1/2" Ice	1.63	1.00	31.66
			0.00				1" Ice	1.82	1.18	43.84
(2) 7700.00	C	From Leg	3.00		0.000	120.00	No Ice	1.45	0.82	22.00
(AT&T)			0.00				1/2" Ice	1.63	1.00	31.66
			0.00				1" Ice	1.82	1.18	43.84
(2) LGP21401	A	From Leg	3.00		0.000	120.00	No Ice	0.82	0.35	17.50
(AT&T)			0.00				1/2" Ice	0.94	0.44	23.31
			0.00				1" Ice	1.06	0.54	30.86
(2) LGP21401	B	From Leg	3.00		0.000	120.00	No Ice	0.82	0.35	17.50
(AT&T)			0.00				1/2" Ice	0.94	0.44	23.31
			0.00				1" Ice	1.06	0.54	30.86
(2) LGP21401	C	From Leg	3.00		0.000	120.00	No Ice	0.82	0.35	17.50
(AT&T)			0.00				1/2" Ice	0.94	0.44	23.31
			0.00				1" Ice	1.06	0.54	30.86
(2) LGP21901	A	From Leg	3.00		0.000	120.00	No Ice	0.20	0.10	2.50
(AT&T)			0.00				1/2" Ice	0.26	0.14	4.70
			0.00				1" Ice	0.33	0.19	7.94
(2) LGP21901	B	From Leg	3.00		0.000	120.00	No Ice	0.20	0.10	2.50
(AT&T)			0.00				1/2" Ice	0.26	0.14	4.70
			0.00				1" Ice	0.33	0.19	7.94
(2) LGP21901	C	From Leg	3.00		0.000	120.00	No Ice	0.20	0.10	2.50
(AT&T)			0.00				1/2" Ice	0.26	0.14	4.70
			0.00				1" Ice	0.33	0.19	7.94
Angle Sector Frame	A	From Leg	3.00		0.000	120.00	No Ice	17.90	8.95	400.00
(AT&T)			0.00				1/2" Ice	22.20	13.00	510.00
			0.00				1" Ice	26.50	17.05	620.00
Angle Sector Frame	B	From Leg	3.00		0.000	120.00	No Ice	17.90	8.95	400.00
(AT&T)			0.00				1/2" Ice	22.20	13.00	510.00
			0.00				1" Ice	26.50	17.05	620.00
Angle Sector Frame	C	From Leg	3.00		0.000	120.00	No Ice	17.90	8.95	400.00
(AT&T)			0.00				1/2" Ice	22.20	13.00	510.00
			0.00				1" Ice	26.50	17.05	620.00
***										
10' Pine Branch	A	From Leg	5.00		0.000	150.00	No Ice	25.00	25.00	37.50
(Other)			0.00				1/2" Ice	45.00	45.00	62.63
			0.00				1" Ice	65.00	65.00	125.25
10' Pine Branch	B	From Leg	5.00		0.000	150.00	No Ice	25.00	25.00	37.50
(Other)			0.00				1/2" Ice	45.00	45.00	62.63
			0.00				1" Ice	65.00	65.00	125.25
10' Pine Branch	C	From Leg	5.00		0.000	150.00	No Ice	25.00	25.00	37.50
(Other)			0.00				1/2" Ice	45.00	45.00	62.63
			0.00				1" Ice	65.00	65.00	125.25
10' Pine Branch	A	From Leg	5.00		0.000	140.00	No Ice	25.00	25.00	37.50
(Other)			0.00				1/2" Ice	45.00	45.00	62.63
			0.00				1" Ice	65.00	65.00	125.25
10' Pine Branch	B	From Leg	5.00		0.000	140.00	No Ice	25.00	25.00	37.50
(Other)			0.00				1/2" Ice	45.00	45.00	62.63
			0.00				1" Ice	65.00	65.00	125.25
10' Pine Branch	C	From Leg	5.00		0.000	140.00	No Ice	25.00	25.00	37.50
(Other)			0.00				1/2" Ice	45.00	45.00	62.63
			0.00				1" Ice	65.00	65.00	125.25
10' Pine Branch	A	From Leg	5.00		0.000	130.00	No Ice	25.00	25.00	37.50
(Other)			0.00				1/2" Ice	45.00	45.00	62.63
			0.00				1" Ice	65.00	65.00	125.25
10' Pine Branch	B	From Leg	5.00		0.000	130.00	No Ice	25.00	25.00	37.50
(Other)			0.00				1/2" Ice	45.00	45.00	62.63

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	C	From Leg	5.00	0.000	130.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	A	From Leg	5.00	0.000	120.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	B	From Leg	5.00	0.000	120.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	C	From Leg	5.00	0.000	120.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	A	From Leg	5.00	0.000	110.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	B	From Leg	5.00	0.000	110.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	C	From Leg	5.00	0.000	110.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	A	From Leg	5.00	0.000	100.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	B	From Leg	5.00	0.000	100.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	C	From Leg	5.00	0.000	100.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	A	From Leg	5.00	0.000	90.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	B	From Leg	5.00	0.000	90.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	C	From Leg	5.00	0.000	90.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	A	From Leg	5.00	0.000	80.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	B	From Leg	5.00	0.000	80.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25
10' Pine Branch	C	From Leg	5.00	0.000	80.00	No Ice	25.00	25.00	37.50
(Other)			0.00			1/2" Ice	45.00	45.00	62.63
			0.00			1" Ice	65.00	65.00	125.25

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral / Vert (ft)	Azimuth Adjustment (°)	3 dB Beam Width (°)	Elevation (ft)	Outside Diameter (ft)		Aperture Area (ft^2)	Weight (lb)
2' Std. Dish (Other)	C	Paraboloid w/o Radome	From Leg	1.00 0.00 0.00	0.000		150.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	14.00 31.50 49.01
2' Std. Dish (Other)	C	Paraboloid w/o Radome	From Leg	1.00 0.00 0.00	0.000		150.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	14.00 31.50 49.01

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 45 deg - No Ice
5	0.9 Dead+1.6 Wind 45 deg - No Ice
6	1.2 Dead+1.6 Wind 90 deg - No Ice
7	0.9 Dead+1.6 Wind 90 deg - No Ice
8	1.2 Dead+1.6 Wind 135 deg - No Ice
9	0.9 Dead+1.6 Wind 135 deg - No Ice
10	1.2 Dead+1.6 Wind 180 deg - No Ice
11	0.9 Dead+1.6 Wind 180 deg - No Ice
12	1.2 Dead+1.6 Wind 225 deg - No Ice
13	0.9 Dead+1.6 Wind 225 deg - No Ice
14	1.2 Dead+1.6 Wind 270 deg - No Ice
15	0.9 Dead+1.6 Wind 270 deg - No Ice
16	1.2 Dead+1.6 Wind 315 deg - No Ice
17	0.9 Dead+1.6 Wind 315 deg - No Ice
18	1.2 Dead+1.0 Ice+1.0 Temp
19	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
20	1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp
21	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
22	1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp
23	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
24	1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp
25	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
26	1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 45 deg - Service
29	Dead+Wind 90 deg - Service
30	Dead+Wind 135 deg - Service
31	Dead+Wind 180 deg - Service
32	Dead+Wind 225 deg - Service
33	Dead+Wind 270 deg - Service
34	Dead+Wind 315 deg - Service

Maximum Tower Deflections - Service Wind

Section No.	Elevation (ft)	Horz. Deflection (in)	Gov. Load Comb.	Tilt (°)	Twist (°)
L1	153 - 133.83	18.917	34	1.080	0.053

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L2	138.163 - 88.163	15.586	34	1.052	0.045
L3	93.829 - 43.539	7.049	34	0.716	0.019
L4	50.4556 - 0	2.023	34	0.368	0.007

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	2' Std. Dish	34	18.237	1.076	0.052	37142
140.00	53"x7"x3" Panel	34	15.992	1.058	0.046	14444
130.00	(2) LPA-80080/4CF	34	13.823	1.015	0.041	10641
120.00	(2) 7700.00	34	11.762	0.947	0.034	8990
110.00	10' Pine Branch	34	9.833	0.864	0.028	7783
100.00	10' Pine Branch	34	8.058	0.772	0.022	6804
90.00	10' Pine Branch	34	6.459	0.682	0.018	6284
80.00	10' Pine Branch	34	5.051	0.597	0.014	6223

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	153 - 133.83	88.506	16	5.055	0.247
L2	138.163 - 88.163	72.947	16	4.930	0.211
L3	93.829 - 43.539	33.022	16	3.355	0.090
L4	50.4556 - 0	9.480	16	1.723	0.032

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	2' Std. Dish	16	85.330	5.040	0.240	8610
140.00	53"x7"x3" Panel	16	74.842	4.956	0.216	3344
130.00	(2) LPA-80080/4CF	16	64.704	4.755	0.188	2401
120.00	(2) 7700.00	16	55.071	4.439	0.159	1982
110.00	10' Pine Branch	16	46.049	4.047	0.131	1687
100.00	10' Pine Branch	16	37.744	3.619	0.104	1468
90.00	10' Pine Branch	16	30.260	3.195	0.082	1353
80.00	10' Pine Branch	16	23.665	2.797	0.064	1337

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	153 - 133.83 (1)	TP30.03x25.25x0.1875	19.17	153.00	179.8	17.1170	-4638.57	119597.00	0.039
L2	133.83 - 88.163 (2)	TP40.91x28.5746x0.3125	50.00	153.00	131.9	38.8812	-16021.50	504609.00	0.032
L3	88.163 - 43.539 (3)	TP51.28x38.8872x0.5	50.29	153.00	105.4	77.8829	-32620.80	1584250.00	0.021
L4	43.539 - 0 (4)	TP61x48.5756x0.5625	50.46	153.00	85.6	107.9040	-58750.60	3304300.00	0.018

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} lb-ft	ϕM_{nx} lb-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} lb-ft	ϕM_{ny} lb-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	153 - 133.83 (1)	TP30.03x25.25x0.1875	129653.33	652415.83	0.199	0.00	652415.83	0.000
L2	133.83 - 88.163 (2)	TP40.91x28.5746x0.3125	1422066.67	2180066.67	0.652	0.00	2180066.67	0.000
L3	88.163 - 43.539 (3)	TP51.28x38.8872x0.5	3406316.67	5825816.67	0.585	0.00	5825816.67	0.000
L4	43.539 - 0 (4)	TP61x48.5756x0.5625	5957383.33	9764666.67	0.610	0.00	9764666.67	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u lb	ϕV_n lb	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u lb-ft	ϕT_n lb-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	153 - 133.83 (1)	TP30.03x25.25x0.1875	16363.10	550813.00	0.030	20545.50	1306425.00	0.016
L2	133.83 - 88.163 (2)	TP40.91x28.5746x0.3125	39231.20	1352430.00	0.029	53752.50	4365466.67	0.012
L3	88.163 - 43.539 (3)	TP51.28x38.8872x0.5	48733.90	2893160.00	0.017	66349.67	11665916.00	0.006
L4	43.539 - 0 (4)	TP61x48.5756x0.5625	52179.50	3934150.00	0.013	66277.92	19553166.67	0.003

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	153 - 133.83 (1)	0.039	0.199	0.000	0.030	0.016	0.240 ✔	1.000	4.8.2 ✔

Section No.	Elevation ft	Ratio $P_u/\phi P_n$	Ratio $M_{ux}/\phi M_{nx}$	Ratio $M_{uy}/\phi M_{ny}$	Ratio $V_u/\phi V_n$	Ratio $T_u/\phi T_n$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L2	133.83 - 88.163 (2)	0.032	0.652	0.000	0.029	0.012	0.686 ✔	1.000	4.8.2 ✔
L3	88.163 - 43.539 (3)	0.021	0.585	0.000	0.017	0.006	0.606 ✔	1.000	4.8.2 ✔
L4	43.539 - 0 (4)	0.018	0.610	0.000	0.013	0.003	0.628 ✔	1.000	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
L1	153 - 133.83	Pole	TP30.03x25.25x0.1875	1	-4638.57	119597.00	24.0	Pass
L2	133.83 - 88.163	Pole	TP40.91x28.5746x0.3125	2	-16021.50	504609.00	68.6	Pass
L3	88.163 - 43.539	Pole	TP51.28x38.8872x0.5	3	-32620.80	1584250.00	60.6	Pass
L4	43.539 - 0	Pole	TP61x48.5756x0.5625	4	-58750.60	3304300.00	62.8	Pass
							Summary	
							Pole (L2) 68.6	Pass
							RATING = 68.6	**Pass**

33 BOARDMAN RD

Location	33 BOARDMAN RD	**Mblu**	47/ / 73/ /
Acct#		**Owner**	QUARRY STONE AND GRAVEL LLC
Assessment	$2,871,680	**Appraisal**	$4,896,500
PID	8323	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,205,300	$3,691,200	$4,896,500
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$843,710	$2,027,970	$2,871,680

Owner of Record

Owner	QUARRY STONE AND GRAVEL LLC	**Sale Price**	$0
Co-Owner	% O + G INDUSTRIES	**Certificate**	
Address	112 WALL ST TORRINGTON, CT 06790	**Book & Page**	778/ 681
		Sale Date	09/11/2003
		Instrument	03

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
QUARRY STONE AND GRAVEL LLC	$0		778/ 681	03	09/11/2003
QUARRY STONE AND GRAVEL LLC	$0		765/ 512	03	07/08/2003
KOVACS ROBERT G + KOVACS PAUL B + KOVACS	$0		705/ 499	29	05/23/2002
QUARRY STONE AND GRAVEL LLC	$0		690/ 804	03	01/09/2002
KOVACS ROGER P + PAUL B + ROBERT G	$0		361/ 142		12/24/1986

Building Information

Building 1 : Section 1

Year Built:	1989
Living Area:	9,000
Replacement Cost:	$305,640
Building Percent Good:	66

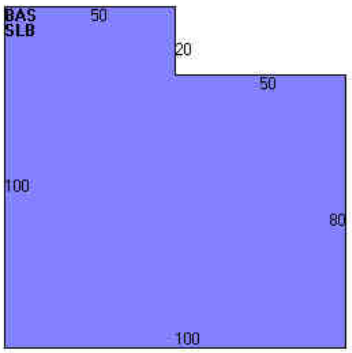
Building Photo

Replacement Cost
Less Depreciation: $201,700

Building Attributes	
Field	**Description**
STYLE	Pre-Eng Whse
MODEL	Ind/Comm
Grade	C
Stories:	1
Occupancy	1
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	Minimum
Roof Structure	Gable
Roof Cover	Enamel Metal
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	Sand+Gravl
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	410I
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	20
% Comn Wall	0

(http://images.vgsi.com/photos/NewMilfordCTPhotos//\00\01\57/71.jpg)

Building Layout



(http://images.vgsi.com/photos/NewMilfordCTPhotos//Sketches/8

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	9,000	9,000
SLB	Slab	9,000	0
		18,000	9,000

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 410
Description Sand+Gravl

Land Line Valuation

Size (Acres) 342.45
Frontage 0

Zone	I/R40	**Depth**	0
Neighborhood	C100	**Assessed Value**	$2,027,970
Alt Land Appr	No	**Appraised Value**	$3,691,200
Category			

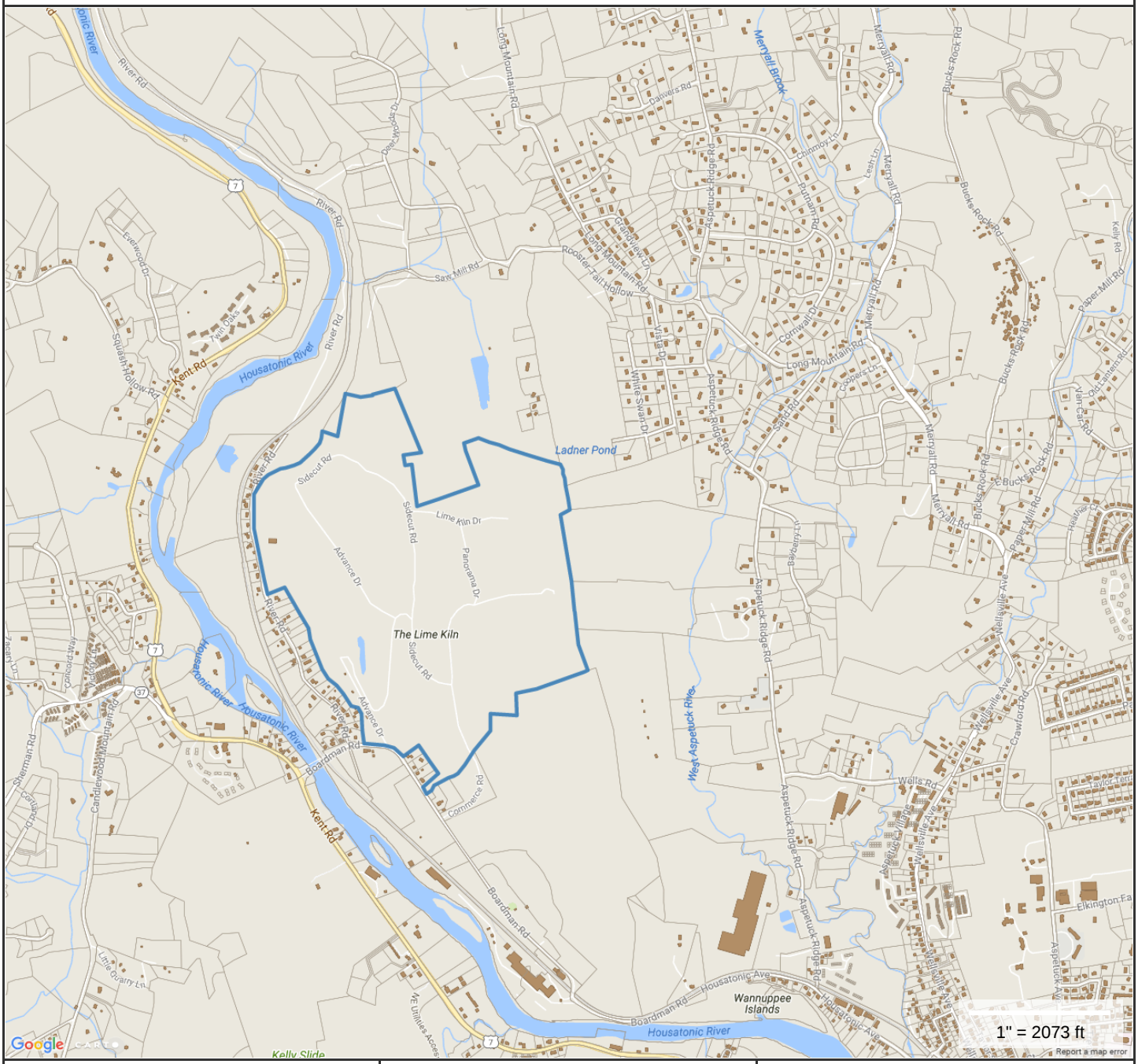
Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD1	Shed	CB	CindBk/Frame	200 S.F.	$1,600	1
SHD1	Shed	FR	Frame	400 S.F.	$3,200	1
LT1	Light (1)			100 Units	$93,600	1
SCL1	Scale			60 TONS	$21,600	1
SCL1	Scale			60 TONS	$21,600	1
SITE	Cell Site Tenant	TW	Tower	4 Units	$862,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$1,086,200	$3,691,200	$4,777,400
2009	$219,200	$9,275,200	$9,494,400
2009	$219,200	$9,275,200	$9,494,400

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$760,340	$2,010,550	$2,770,890
2009	$153,440	$2,038,320	$2,191,760
2009	$153,440	$2,038,320	$2,191,760



Property Information

Property ID	47/73
Location	33 BOARDMAN RD
Owner	QUARRY STONE AND GRAVEL LLC

MAP FOR REFERENCE ONLY
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Parcels updated 10/1/2016
Properties updated 02/19/2018